FEB 17 1947


# Textile Industries

FEBRUARY, 1947

*formerly* COTTON *Textile Industries*


CONTENTS, PAGE 3 ADV. INDEX, PAGES 228 and 229

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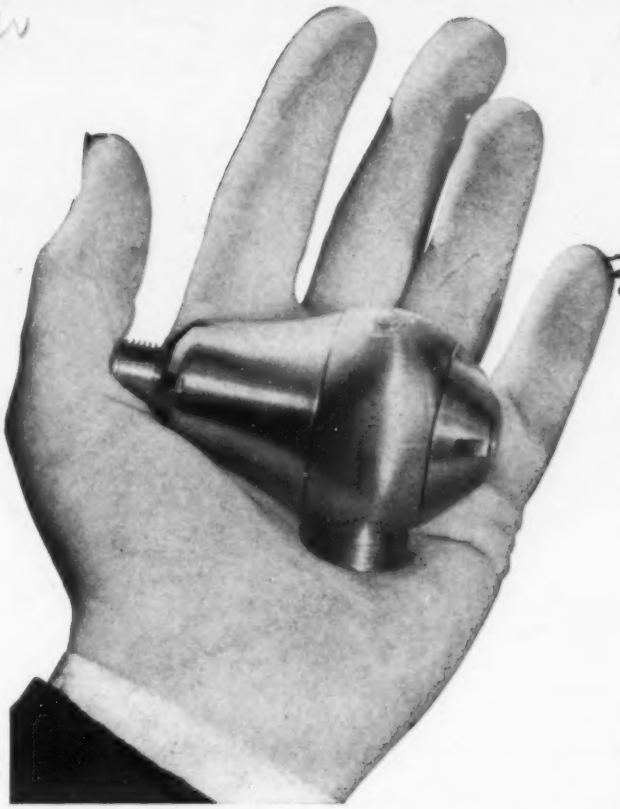
PARKS TURBOMATIC TRADE MARK
SELF-CLEANING ATOMIZER



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COPY TO L

# Humidifiers or Humidification

Mysterious looking objects delivering moisture, and HUMIDIFICATION have little in common. Humidification reckons with many things; the changing demand of the seasons, of each day, or hour, or minute. It includes peculiarities of plant, processes and product. Finally, it aims at more and better production.

Yes, "humidifiers" may help.

Genuine HUMIDIFICATION produces money making results.

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Turbomatic Self-cleaning Atomizers, High Duty Humidifiers, Automatic Airchanger, Central Station Systems with and without Refrigeration, Psychrostat Automatic Regulation

Charlotte, N. C.

1 Suitable for all counts of cotton yarn.

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3 Easy to prepare. Add to mix when starch is wet out.

4 Forms tough, elastic surface. Reduces shedding.

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6 If left in, does not damage goods, cause discoloration nor develop odor.

*Bulletin 110 on request*

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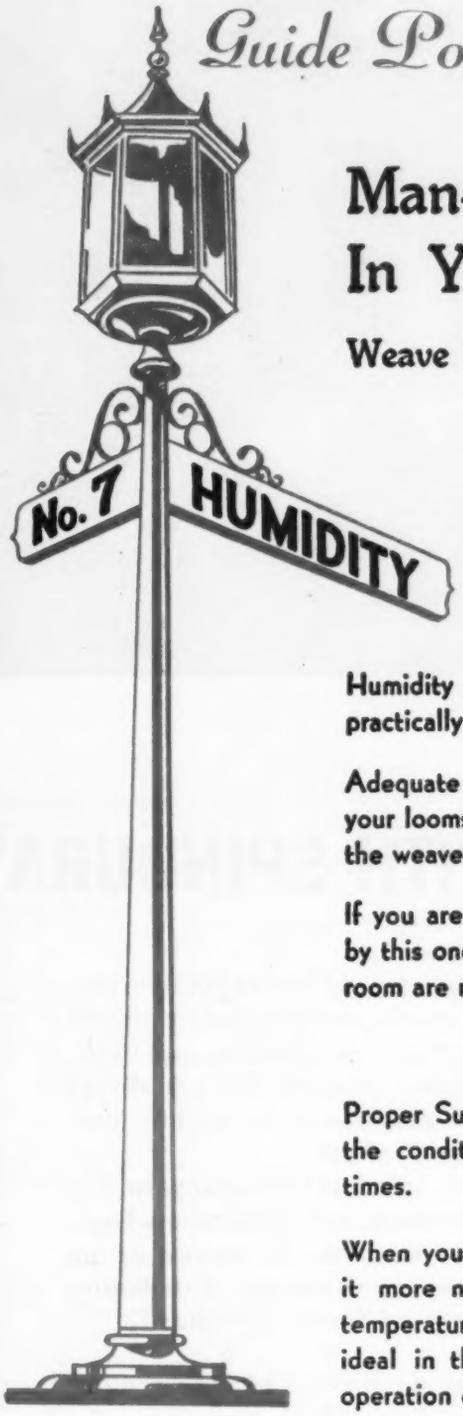
Volume 111 Number 2

FEB 17 1947

*Guide Posts to Increased Production*




# Man-Made Weather In Your Mill

**Weave Room air properly humidified will**
**Reduce Loom Stops**
**Diminish Dust and Fly**
**Eliminate Static Electricity**

**In a dry weave room both warp and filling become brittle . . . loom stops are excessive . . . production falls off.**

**Humidity reduces this trouble. The correct amount of humidity practically eliminates loom stops from this source.**

**Adequate control of humidity and temperature enables you to run your looms at consistently higher speeds. It lightens the work of the weaver; steps up weave room efficiency; reduces dust and lint.**

**If you are having excessive loom stops you may find it is caused by this one factor. Be sure that weather conditions in your weave room are right—**

## Consult Your Engineers

**Proper Supervisory Controls should be set up to make sure that the conditions and the standards you want are maintained at all times.**

**When you install new X Series High Speed Looms you will find it more necessary than ever before to have correct operating temperatures and humidity. Conditions which you have found ideal in the past may prove to be entirely inadequate for the operation of these faster running looms.**

**Correct atmospheric conditions are and always have been essential to good weaving.**

**Seventh in a Series**

**Of What Well-Managed Mills Are Doing to Get the Best Results in Weaving**

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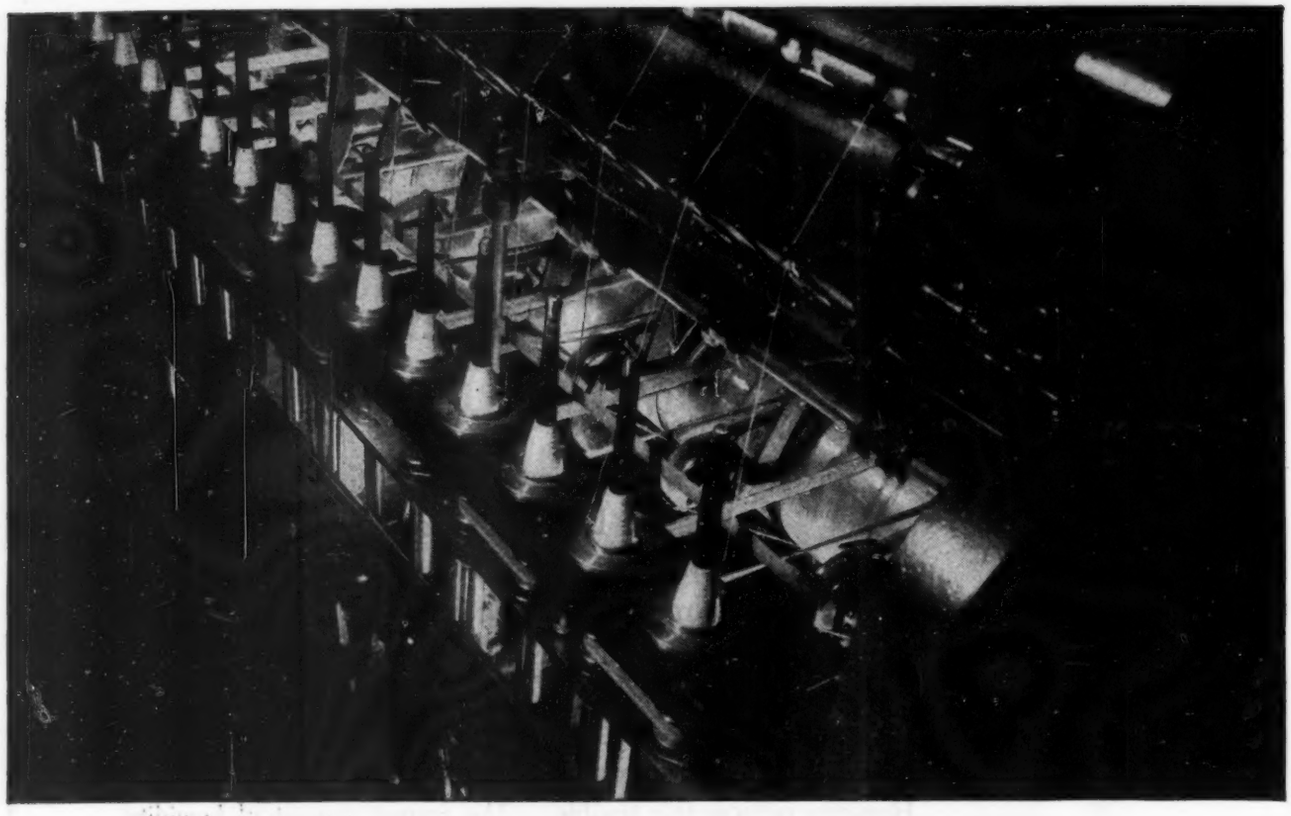
HOPEDALE MASSACHUSETTS



# SMOOTHER, FINER YARN ...WHEN YOU "SPIN WITH SPINDURA"

TEXACO *Spindura Oils* are especially made for spindle lubrication. Their high resistance to oxidation and thickening means less spindle vibration, less hunting and lagging, fewer ends down. Consequently, yarn spun with *Spindura* has more uniform twist, smoother finish, finer quality.

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Volume 111, Number 2

# Textile Industries

formerly COTTON

FEBRUARY, 1947

**Modernization and Maintenance (*A Special Issue*)**

## FEATURES

Modernization and Maintenance (Introduction)--- 72
Emphasis on Lubrication--- 72
Dividends from Planned Painting--- 73
Applied Maintenance Plan--- 78
Lubrication----(A Maintenance Policy)--- 81
Dover Mill Group (Modernization)--- 85
American Yarn & Processing Co. (Modernization)- 87
Chatham's Maintenance Department (Woolen Mill) 88
Industrial's Maintenance Schedule--- 92
Examples of Plant Modernization (Pictorial)---- 94
Dyeing, Bleaching, and Finishing (Maintenance)-- 98
Seminole's Maintenance Manual (Spun Rayon Plant) ---107
Proximity, White Oak, and Revolution---115
Monarch Mills (Modernization)---123
Wiscassett Mills Company (Maintenance)---131
Mooresville Mills (Modernization)---135
Clover Spinning Mills (Modernization)---141

## MODERNIZATION (Pictorial)

Central Station Air Conditioning--- 94
Frosted Aklo Glass (Shelby Cotton Mills)--- 94
Certified Climate in Southern Mill--- 94
Controlled Draft Drawing (Indianapolis)--- 94
Overhead Cleaners for Warpers (Continental)--- 95
Hoist Handles Large Rolls of Cloth--- 95
Loading Slashers with Overhead Hoist--- 95
Rayon Warp Sizer--- 95
Novel Humidifier Arrangement in Woolen Mill--- 96
J-3 Controlled Draft System--- 96
One Roto-Coner Winding Several Types of Yarn-- 96
Automatic Conveying for Laps (Indianapolis)---- 96
Bi-Coil Drawing (Verney Mill)--- 96
Twister Installation (Firestone)--- 96
F-2 Spinning at Stanley Mills--- 97
RX Single-Stage Air Compressor--- 97
Self-Cleaning Atomizers (White Oak)--- 97
Automatic Air Changer Equipment--- 97
Automatic Filling Winder (Verney)--- 97
Modern Cloth Room--- 97
Spreaders at Mills Mill---153

## GENERAL and TECHNICAL

The "Portal-to-Portal" Racket--- 69
Georgia Association Convention Plans--- 77
Rayon Production to Increase---111
DDT Moth Control Process---144
Vest Pocket Footcandle Selector---144
125-Watt Infrared Lamps---144
Static Eliminator---147
Stainless Steel Poteye---147
Micromet Feeders---149
Labor Manual for Supervisors---149
ACMA to Hold 51st Meeting in Augusta---156
Berkshire Associates Announce Scholarships---156
Specialized Training at Callaway Institute---177
Tariff Reduction on Cotton Textiles Opposed ---215

## HOW OTHER MEN MANAGE

Roving Winding Around Cork-Synthetic Aprons--151
Picker Room Regain Control---151
Cotton Between Cylinder and Side on Cards---153
Card Silver Reducer---153

## DEPARTMENTS

Shorts and Remnants--- 67
New Equipment---144
How Other Men Manage---151
An Old-Timer Says---159
What the Textile Mills are Doing---160
Personal Notes---167
Executive Views the News in Textiles---171
New Publications---179
Suppliers' News---183

## KNITTING SECTION

Modernization and Maintenance---195
Knitting Mills Welcome Buyers' Plans---208
Forward Position Hard to Figure---208
Nylons Export May Cramp U. S.---211
An Eye on the Knitting Mills---211
England Adds Export Items---212
Trends—Yarn Markets--- 216

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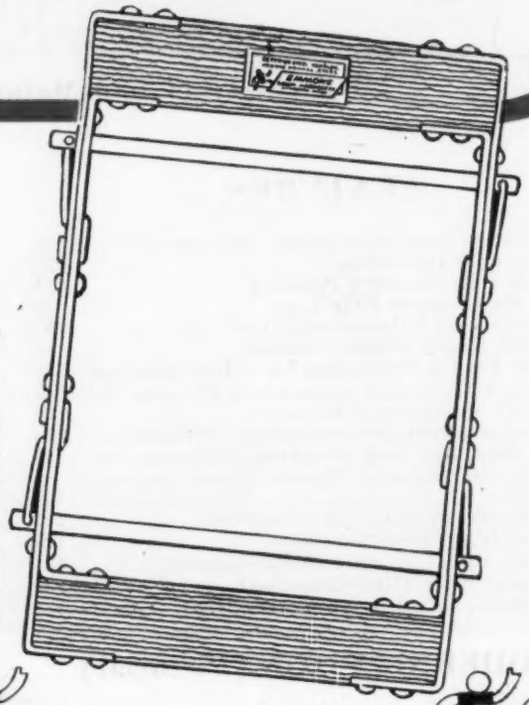

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**WEAVE ROOM EQUIPMENT**

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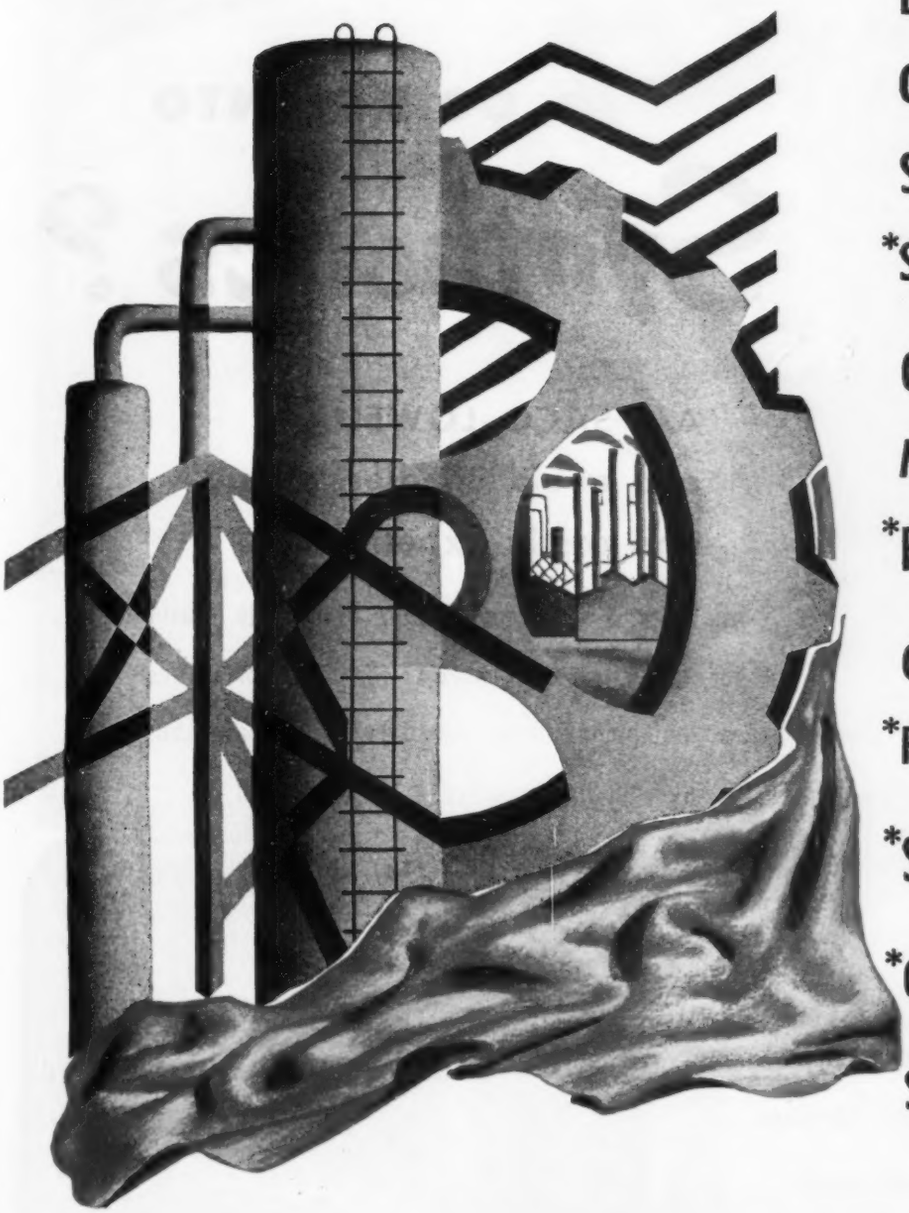

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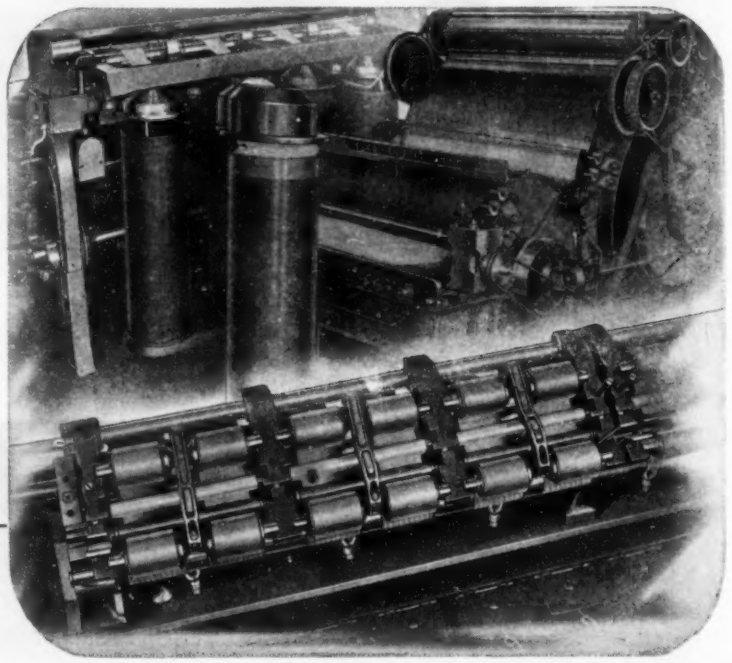
A consultation with our engineers will help you in developing a background plan to avoid unnecessary expense, needless delays and time-consuming experiments.



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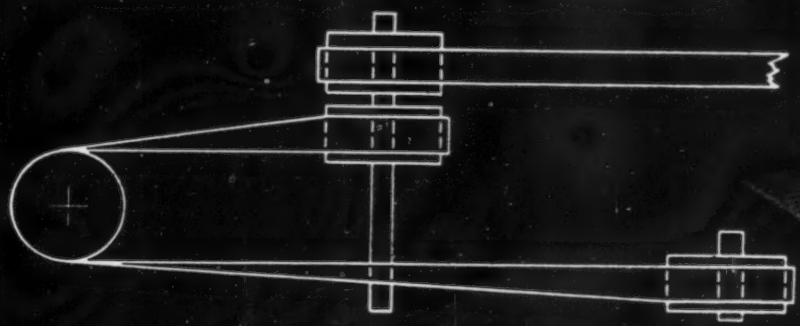

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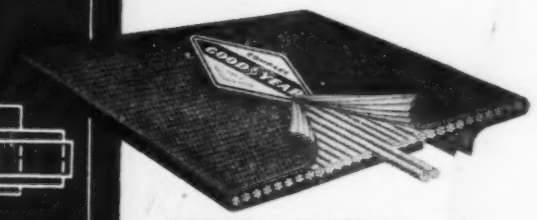

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**TEXAIR HOSE,** most economical ever built for mill clean-up. Light, supple, but unusually strong. Won't soften or weaken through contact with oil. Lasts many times longer than best previous clean-up hose.

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HERE are three of a long list of Goodyear products that have won a notable reputation in textile mills. With them you get the economy, the dependability, the long-lived service that have made Goodyear first choice of mill owners for years.

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GOODYEAR

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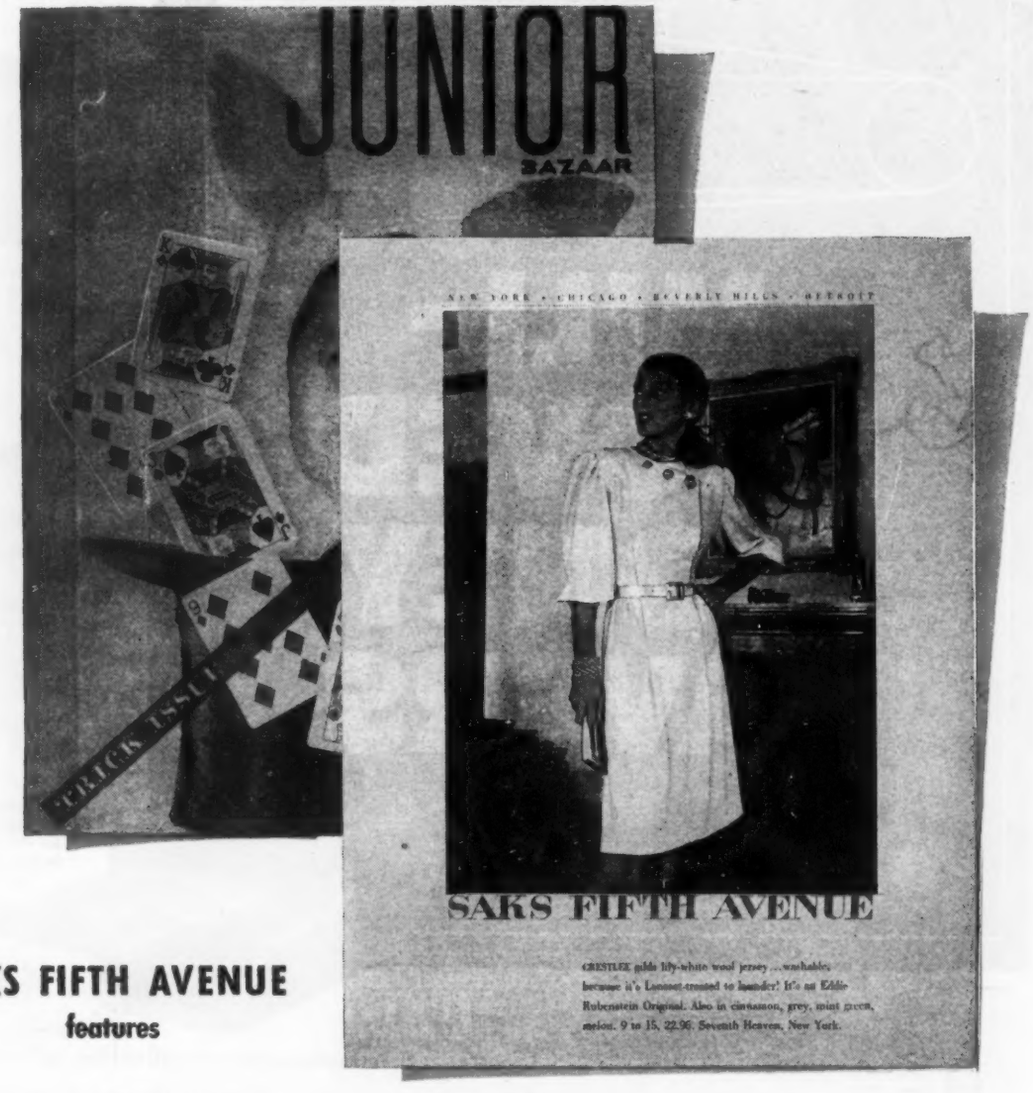
# Textile Resin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**features**

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# Topics

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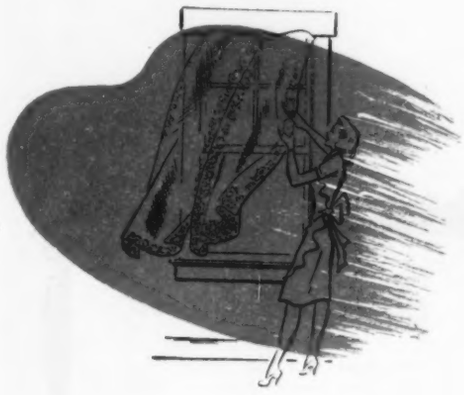

**Lacet*** takes the "labor" out of the washing of cotton or rayon Nottingham lace curtains, as it eliminates the need for wearisome starching, framing and ironing. Curtains treated with LACET resist soil and retain their crisp, new look after numerous washings. Stretching (sagging) and shrinking are kept at a minimum.

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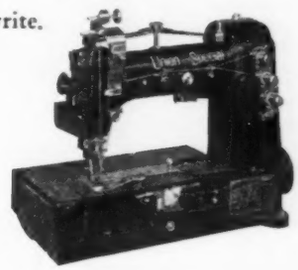
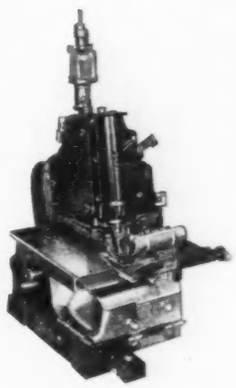
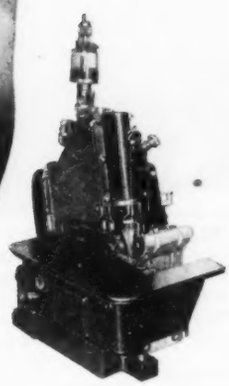


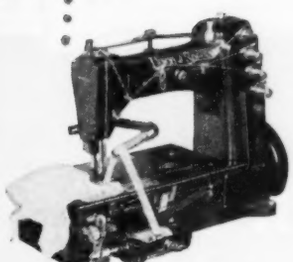
**Style 52800 G** *for attaching knitted tubing and lace.*



**Style 39200 AS** *is widely used for blind stitch welting and hemming work.*



**Style 39200 AC.** *Popular overseamer for the lighter weight materials.*



**Three needle 52700** *machine equipped with Union Special Elastic Metering Device with new top feed for top stitching elastic to knitted panties.*

**UNION SPECIAL MACHINE COMPANY**
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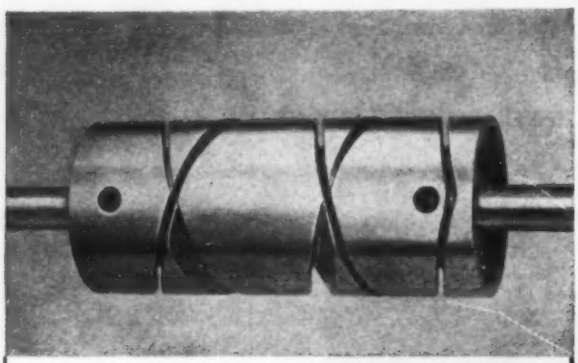
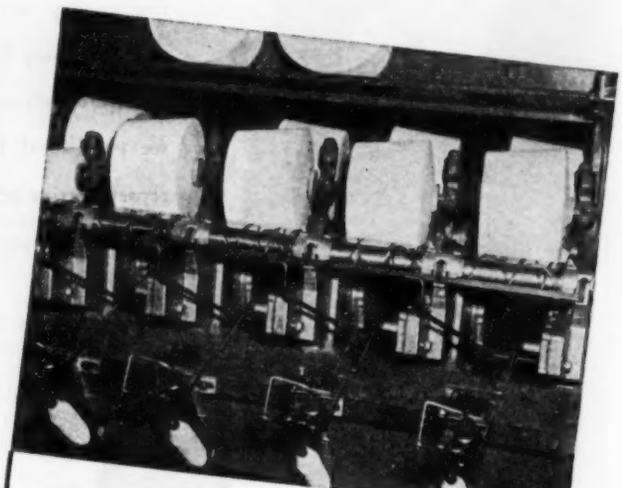
Mills winding spun rayon are invited to write for Bulletin 144. All the advantages it describes for cotton yarn are equally true for spun rayon. Universal Winding Company, Providence, Boston, Philadelphia, Charlotte, Utica, Atlanta, Chicago, Los Angeles, Montreal, Hamilton.

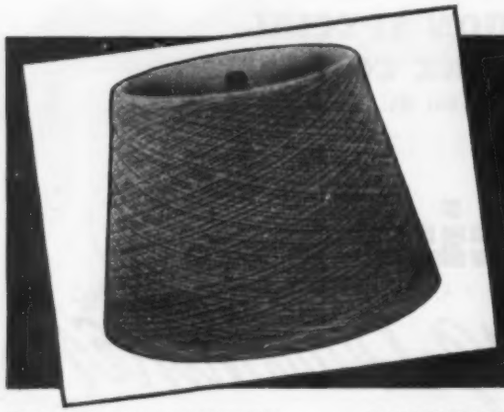


**ROTARY TRAVERSE** made of wear-resisting metal. Roll drives package, grooves guide yarn. No slip drum to nip yarn. Groove arrangement shown builds proper shape of knitting cone; quick reversal of yarn at end of traverse avoids underwinds and cobwebs.



**TROUBLE-FREE OPERATION.** Use of Rotary Traverse permits high winding speed—550 YPM for paper coning. Elimination of cams and other fast-wearing reciprocating parts helps give minimum maintenance cost—averaging ½ of 1% per year on investment.

23.6.14



ROTO-CONER LEESONA REG. U.S. PAT. OFF.

*Open-Wind Cones for Knitting*

**WARPING CONES • DYEING PACKAGES • PARALLEL TUBES FOR TWISTING**

# THE FAMOUS *Red Elastic Collar* IS A SYMBOL OF SECURITY

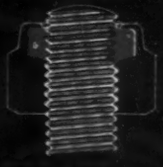
The RED ELASTIC COLLAR is . . .



**PERMANENTLY CLINCHED** to prevent turning under application and subsequent operational stresses.



**PERMANENTLY SECURE** against vibration effects. The bolt impresses (does not cut) full contact threads.



**PERMANENTLY TIGHT** against moisture. Bolt threads have 100% contact in collar — and a full metal seat.

**REUSABLE.** The Red Elastic Collar retains its grip after repeated usage.

## *It makes* ESNA *Elastic Stop Nuts Self-Locking, Self-Sealing and Reusable*

As a result, all ESNA Elastic Stop Nuts protect assemblies against the effects of: VIBRATION: Elastic Stop Nuts lock in position anywhere on a bolt or stud. Vibration, impact or stress reversal cannot disturb prestressed or positioned settings. . . . CORROSION: Elastic Stop Nuts keep the working threads on the bolt and nut bright and rust-free to protect their strength and permit easy removal without damage to the bolt. . . . THREAD FAILURE: Elastic Stop Nuts dampen impact stresses and materially reduce the shocks against bolt threads that frequently cause metal fatigue. . . . LIQUID SEEPAGE: Elastic Stop Nuts produce a radial-reactive pressure against the bolt threads inside the Red Elastic Collar that makes Elastic Stop Nuts self-sealing against liquid seepage. . . . COSTLY MAINTENANCE: Elastic Stop Nuts are reusable. (Torque tests on aircraft bolts prove that adequate locking torque is maintained through 15 on-and-off cycles.) They do not deform the bolt, damage the threads, gall the finish, or rust.

This wide range of protection permits full purchasing and inventory standardization and its resultant economy. For further information address: Elastic Stop Nut Corporation of America, Union, New Jersey. Sales Engineers and Distributors are conveniently located in many principal cities.

## ESNA ELASTIC STOP NUTS

TRADE MARK

INTERNAL WRENCHING

ANCHOR

WING

SPLINE

CLINCH

GANG CHANNEL

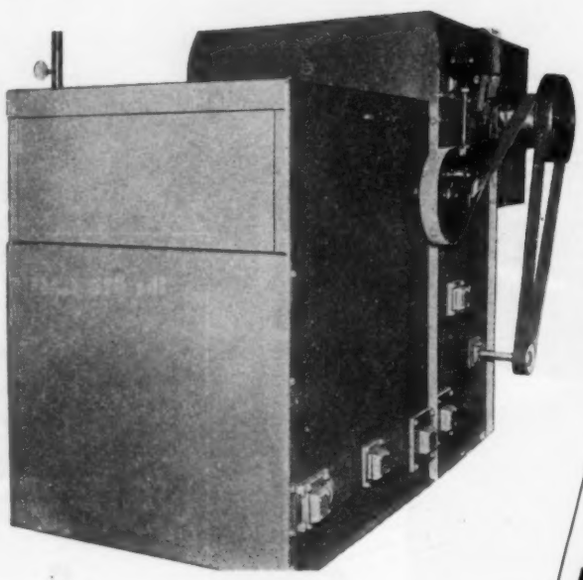
CAP

*PRODUCTS OF:* ELASTIC STOP NUT CORPORATION OF AMERICA

# *Now* NEW • USED • REBUILT MACHINERY

BACKED BY THE FAMOUS

## BLACK AND WHITE LABEL



Troy Whitehead machinery has been used for years in the Textile Industry . . . THE WORLD OVER.

Today all our machinery . . new . . used and rebuilt . . is backed by the famous Black and White Label . . your assurance that each piece is guaranteed to be exactly as represented.

**MANUFACTURERS** . . of the No. 1 Whitehead Blending Feeder. *SURPASSED BY NONE!* Textile aprons made of hard-rock maple slats or high speed aprons made of fire-proof composition . . *THE BEST TEXTILE APRONS ON THE AMERICAN MARKET!*

**RE-BUILDERS** . . of all types opening and picking equipment.

**SUPPLIERS** . . of all necessary textile machinery parts . . including Bobbins, Quills, Rings, etc.

Let the Black and White Label be your guide in textile machinery buying . . . Proof positive that any merchandise purchased may be returned for 100% credit if not found to be exactly as represented.

**LARGEST SELECTION OF GOOD USED MACHINERY IN THE UNITED STATES**

*a few of our items listed below:*

147—40" Cards

10—Single Process Pickers

25000—Spindles (good spinning)

1500—Looms from 36" to 90"

TROY

# WHITEHEAD

CHARLOTTE MACHINERY CO., INC. NORTH CAROLINA

Early Sizing of Yarn—Believed to be circa 1805

The sizing was prepared by boiling in a kettle. Then the yarn was dipped in the sizing to coat it, and hung on racks to dry in the open.

# *Why De-Size?*

Sizing is added to the warp threads to strengthen and protect them during the weaving operation. Once it has served its purpose, the sizing must be rapidly and effectively removed so that it will neither delay dyeing, bleaching or finishing, nor impair the quality of the work.

Rapidase gives complete satisfaction in de-sizing cottons, rayons and mixed goods.

# RAPIDASE

**WALLERSTEIN COMPANY, INC. 180 Madison Ave., New York 16, N. Y.**

Champion came to North Carolina forty-one years ago to make good pulp from hardwoods and spruce. Later Champion devised a method of producing strong white pulp from southern pine. Completion of this mission not only sped up the growth of Champion, but opened the entire South to development by the pulp and paper industry. A decade ago Champion constructed another great pulp and paper mill to utilize the vast resources of Texas and serve customers better. In the South today this Company produces great tonnage of pulp, book paper, envelope, tablet writing, pressboard and other kraft board specialties, for use of printers and other businesses everywhere.

Other products of Champion are caustic soda, chestnut tannin extract, turpentine, and "Trostol," combination of resin and fatty acids.

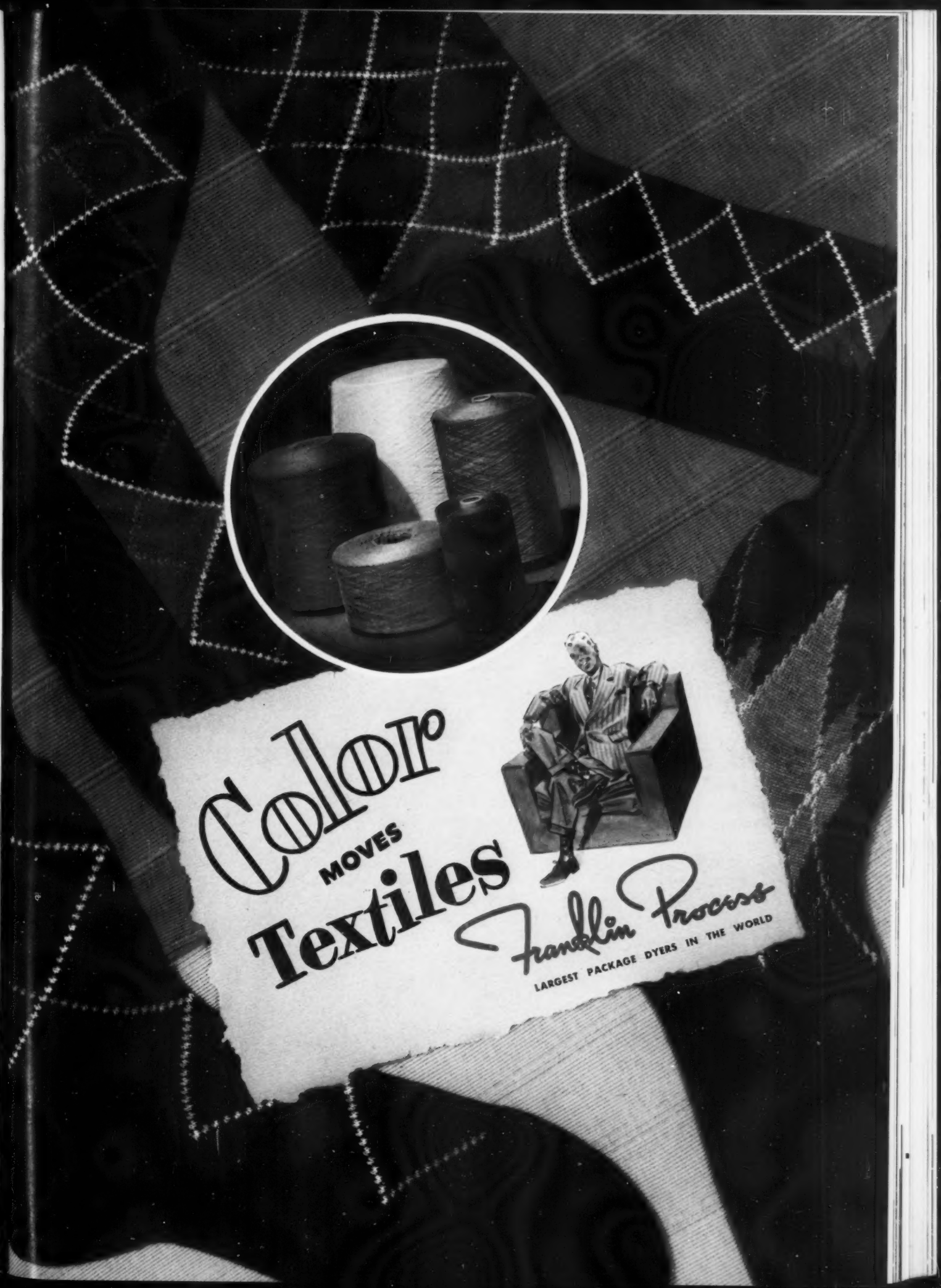
THE *Champion Paper* AND FIBRE COMPANY . . . . . CANTON, N. C.

*Manufacturers of advertisers' and publishers' coated and uncoated papers, bristols, bonds, envelope papers, tablet writing and papeterie . . . 2,000,000 pounds a day*

MILLS AT HAMILTON, OHIO . . . CANTON, N. C. . . . HOUSTON, TEXAS

District Sales Offices

NEW YORK · CHICAGO · PHILADELPHIA · DETROIT · ST. LOUIS · CINCINNATI · ATLANTA · SAN FRANCISCO


Color
MOVES
Textiles
Franklin Process
LARGEST PACKAGE DYERS IN THE WORLD

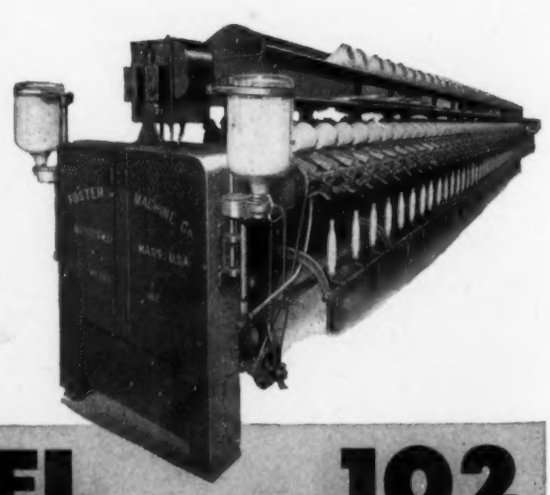
# Bulging Cones

## THE CAUSE AND THE CURE

Cones that bulge at the nose are often caused by the fact that the angle of wind, or lay of the yarn, is too small. The concentration of pressure pushes the yarn upward, with results all too familiar to many spinners and knitters.

The cure is simple and easy when winding with the FOSTER MODEL 102. Just widen the angle of wind by changing four small gears in the head end of the machine. Nine different angles of wind, from 9° to 18° are possible in this way.

We will be glad to recommend the proper angle of wind (and to supply the gears to obtain it) for any given type and count of yarn.



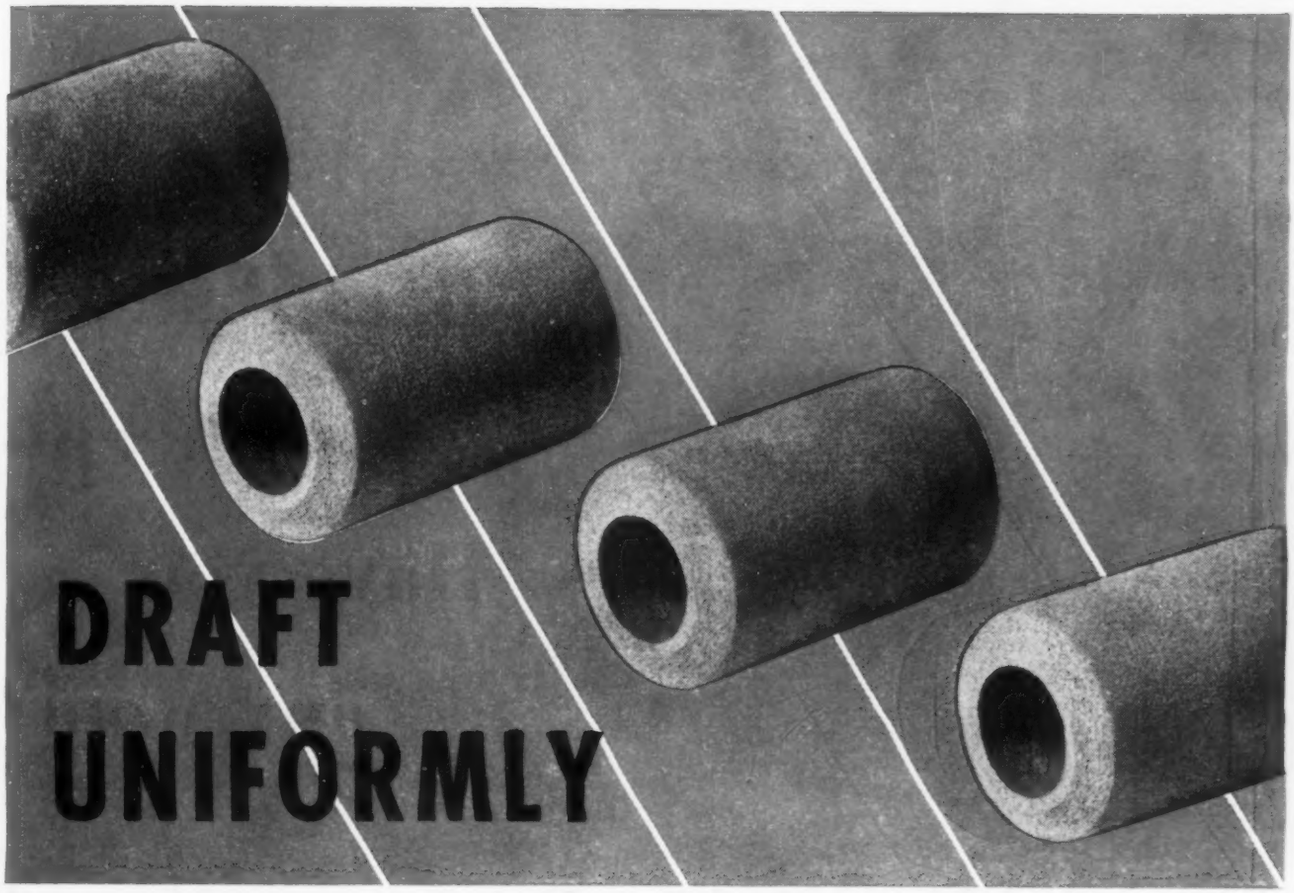
**FOSTER MACHINE CO., Westfield, Mass., U.S.A.**

Southern Office, Johnston Bldg., Charlotte, N. C.; Canadian Representative, Ross-Whitehead & Co., Ltd., University Tower Bldg., 660 St. Catherine St., West, Montreal, Que.

# FOSTER MODEL 102

THE *Flexible* WINDER

FOR COTTON, MERCERIZED, WOOL, WORSTED, MERINO, SPUN SILK OR SPUN RAYON YARNS




## *Armstrong's Cork Cots won't slick up*

You won't have to worry about slicking when you run on Armstrong's Cork Cots. They keep their high coefficient of friction throughout their service life. This longer lasting grip gives you uniform drafting, stronger, more even yarn.

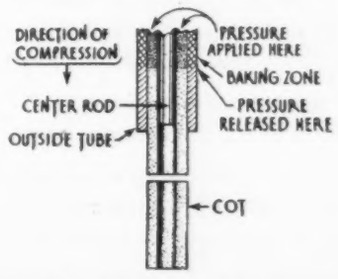
The highly frictional surface of Armstrong's Cork Cots also eliminates eyebrowing. These cots produce the least clearer waste—and place it back on clearer boards where it belongs. Thus slubs are reduced and clearer picking is minimized.

Besides good grip, these cots offer exceptional resilience. They recover quickly from most laps and hard ends. They won't flow under roll weighting. And because they are extruded, they have no hard or soft spots to grip yarn unevenly.

Armstrong's Cork Cots are also low in first cost. They have a long initial service life. When they do show signs of wear, they can be rebuffed for three or four extra service lives.

Check these advantages of Armstrong's Cork Cots on your own frames. See why they are now serving more spindles than any other roll covering. Ask your Armstrong representative for samples, prices, and full information. Or write today to Armstrong Cork Company, Textile Products Department, 3602 Arch St., Lancaster, Pennsylvania.

**EXTRUSION PROCESS PRODUCES SEAMLESS CORK COTS**




**Armstrong's Cork Cots have no structural weakness to cause premature breakdown. Each cot is uniform in density from inside to outside, from end to end. Each compresses evenly, spins stronger yarn, lasts longer.**

*Better running work . . . more poundage*

**ARMSTRONG'S CORK COTS**

ACCOTEX COTS • ACCOTEX APRONS

# Baa! Baa!.. Mrs. Sheep– Have you any wool?

## Yes, sir! Yes, sir! 10 DIFFERENT KINDS!

AS every good wool and worsted mill man knows, the "three bags full" the sheep offered in the nursery rhyme were not an unmixed blessing.

Even when it is carefully sorted into half bloods, quarter bloods, 64's, etc., every bag of wool seems to have individual characteristics that may often complicate its processing.

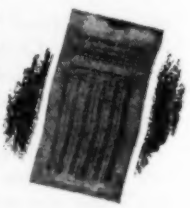
That's why woolen and worsted spinning remains almost as much an art as it is a science.

And that's why leading woolen mills enlist the experience of the Victor Service Engineer when it comes to a question of travelers for spinning or twisting.

The Victor Service Engineer is thoroughly mill-trained – a man who "talks your language" – and is fully equipped with information on handling any fiber. Mill men throughout the industry – who know the importance of the *right* traveler – have chosen Victor Travelers for over 8,000,000 spindles of spinning and twisting – ample proof that Victors pay off in performance.

Write, wire, or phone the nearest Victor office . . . for *prompt* service.

**Wool Spinning Card Room Chart Free** on request. Gives the approximate grain weight of travelers for front roll speeds 85 to 100 . . . also a Comparative Rayon Denier Yarn Table. Write for your copy today.



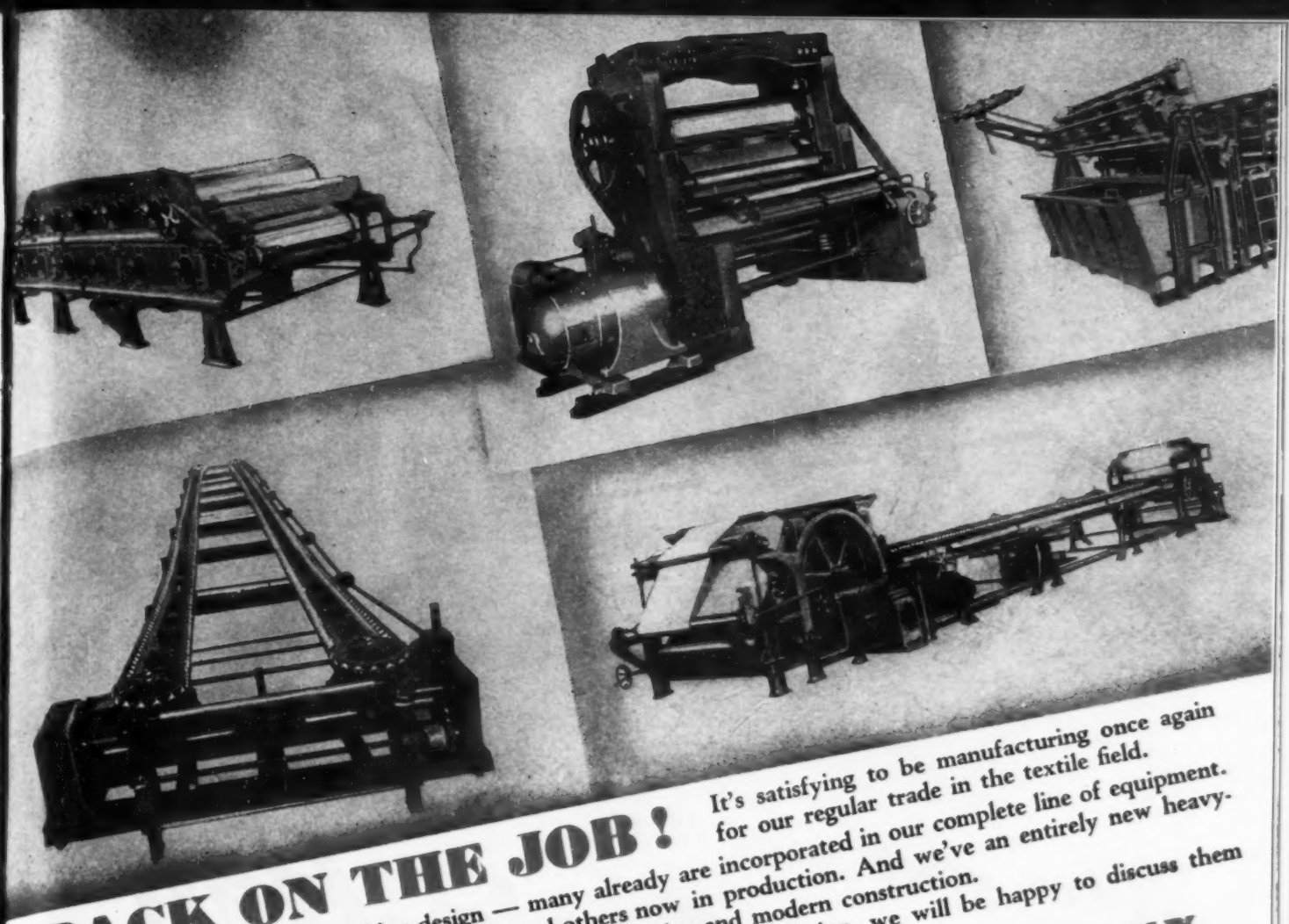
*Keep a Step* *ahead with*

**VICTOR Ring Travelers**

**Victor Ring Traveler Company**

PROVIDENCE, R. I. — 20 Mathewson St. — Tel. Dexter 0737

GASTONIA, N. C. — 173 W. Franklin Ave. — Tel. 247



# BACK ON THE JOB!

It's satisfying to be manufacturing once again for our regular trade in the textile field.

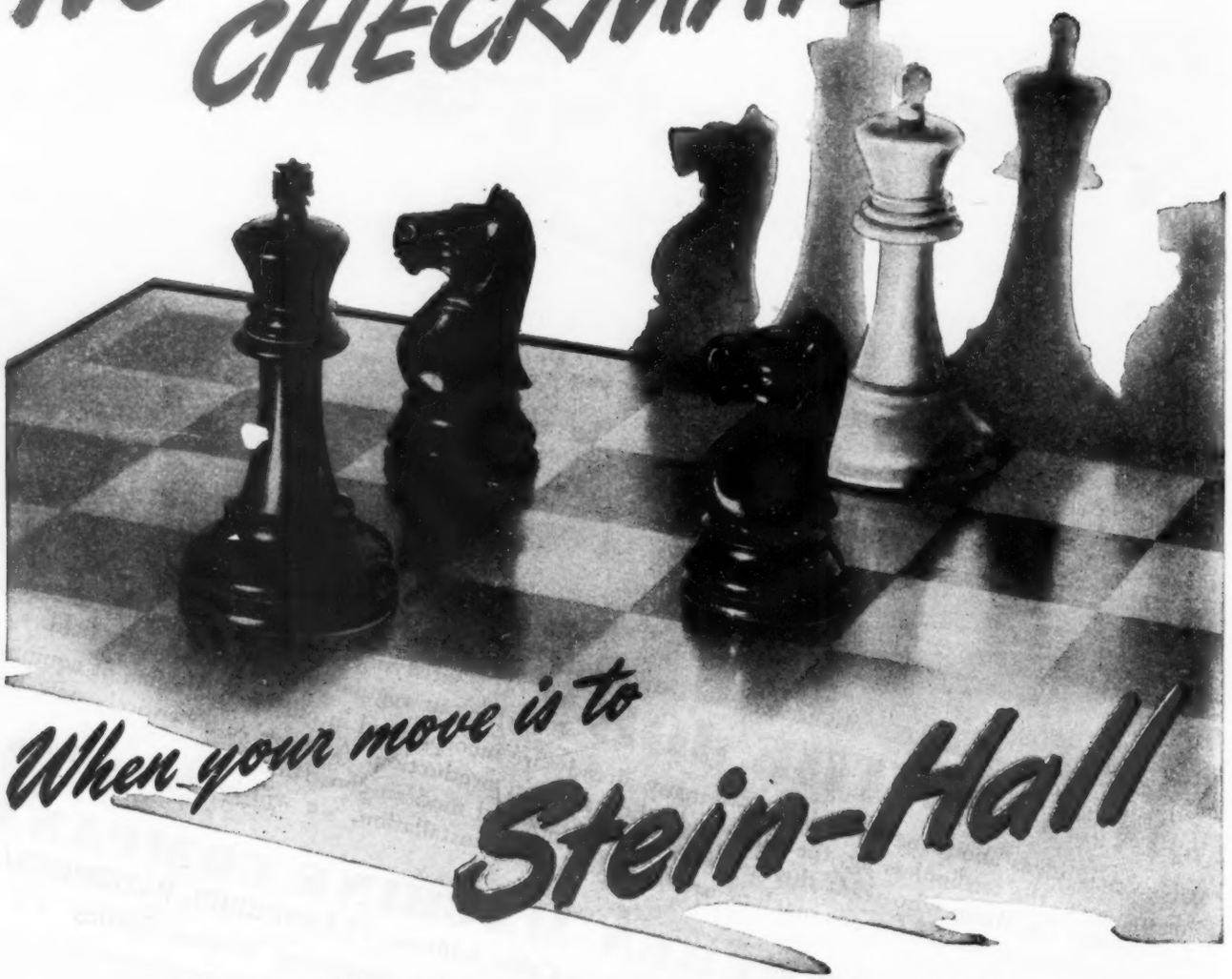
We've new ideas about machine design — many already are incorporated in our complete line of equipment. For instance: the tensionless jig, the tuber and others now in production. And we've an entirely new heavy-duty tenter for those who want the last word in capacity and modern construction. Whether your needs are for one machine or a complete plant installation, we will be happy to discuss them with you.

## VAN VLAANDEREN MACHINE COMPANY

370 STRAIGHT ST., PATERSON 3, N. J. Cable Address, VLAANDEREN, PATERSONNJ, U.S.A.

*World's largest manufacturer of machinery for processing modern fabrics*

# NO CHECKMATE



## When your move is to Stein-Hall

This is a problem in good chess. It is also a problem in good business. On the board, the white king is checked, but not **check-mated.** He can move out of danger.

In business, too, there are constant checks by shortages which must be licked by substitution or new production techniques. Helping our customers move out of these checks is our job.

Stein Hall technicians and field representatives know the problems of your business. They are plant wise and production wise. They have back of them Stein Hall's long experience and unsurpassed research facilities.

*It will pay you to plan now to move out of check by calling on Stein-Hall for advice and counsel.*

**81 YEARS OF SERVICE TO THE TEXTILE INDUSTRY**

**STEIN SH HALL**

**285 MADISON AVENUE NEW YORK 17, N. Y.**

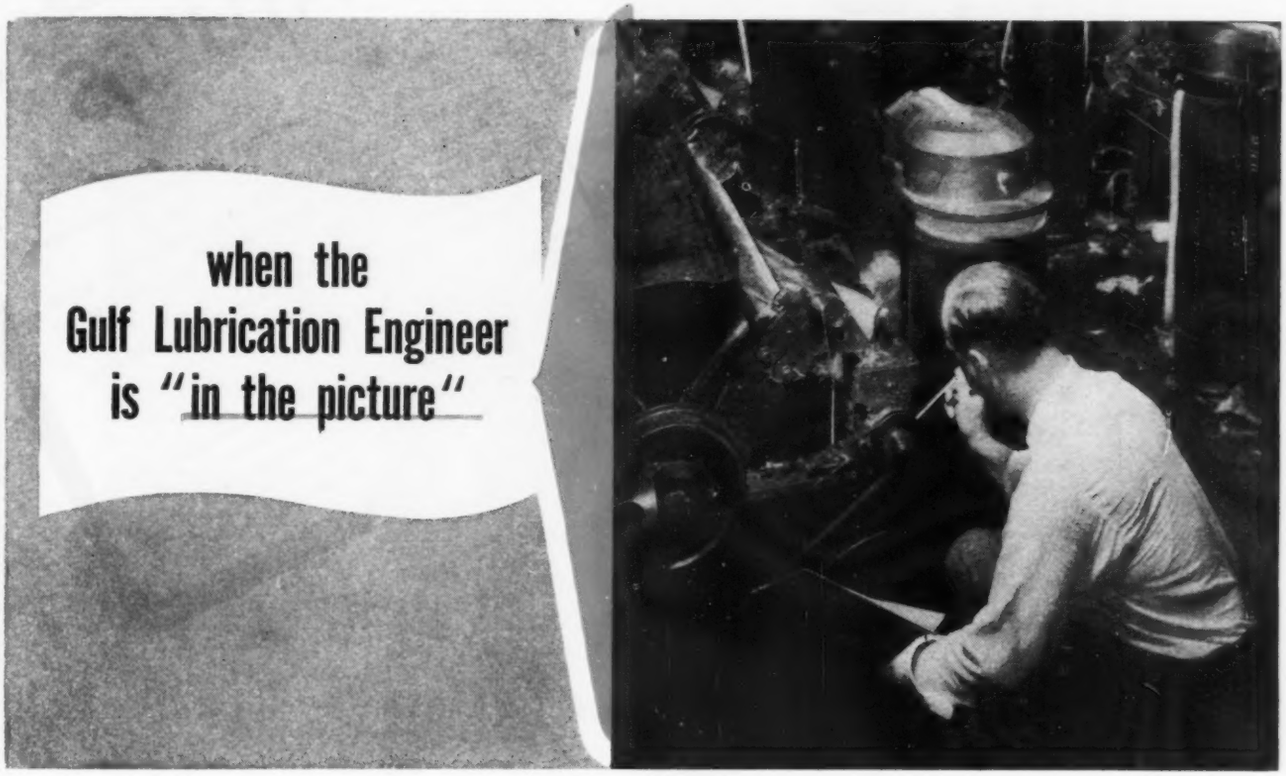
1011 JOHNSTON BLDG., CHARLOTTE 2, NORTH CAROLINA
210 GROSVENOR BLDG., PROVIDENCE 1, RHODE ISLAND
250 VAN HORN STREET, TORONTO, CANADA

EST. 1866

OFFICES IN OTHER PRINCIPAL UNITED STATES CITIES
LABORATORIES AT NEW YORK, CHARLOTTE, PROVIDENCE, CHICAGO

***A TEXTILE STARCH FOR EVERY TEXTILE PURPOSE***

# ✻Less comb-box wear
# ✻Lower maintenance costs




This Gulf Lubrication Engineer, shown checking comb-box temperatures, is "in the picture" in a number of leading mills, where he helps to improve efficiency and reduce costs.

DO you frequently have comb-box lubrication troubles? Scores of leading mills insure against overheating, excessive wear, and leakage in these important units by keeping a Gulf Lubrication Engineer "in the picture."

Gulf Lubrication Engineers recommend the proper application of the right oils or greases for every moving textile machine part — then cooperate closely with mill operating and maintenance men to keep lubrication on a sound, scientific basis the year-round. Result: less machine down time, greater yardage, and lower power and maintenance costs.

Call in a Gulf Lubrication Engineer today and let his knowledge and experience assist you in solving your lubrication and maintenance problems. Write, wire, or phone your nearest Gulf office.

**Gulf Oil Corporation • Gulf Refining Company**

*Division Sales Offices:*
Boston • New York • Philadelphia • Pittsburgh • Atlanta
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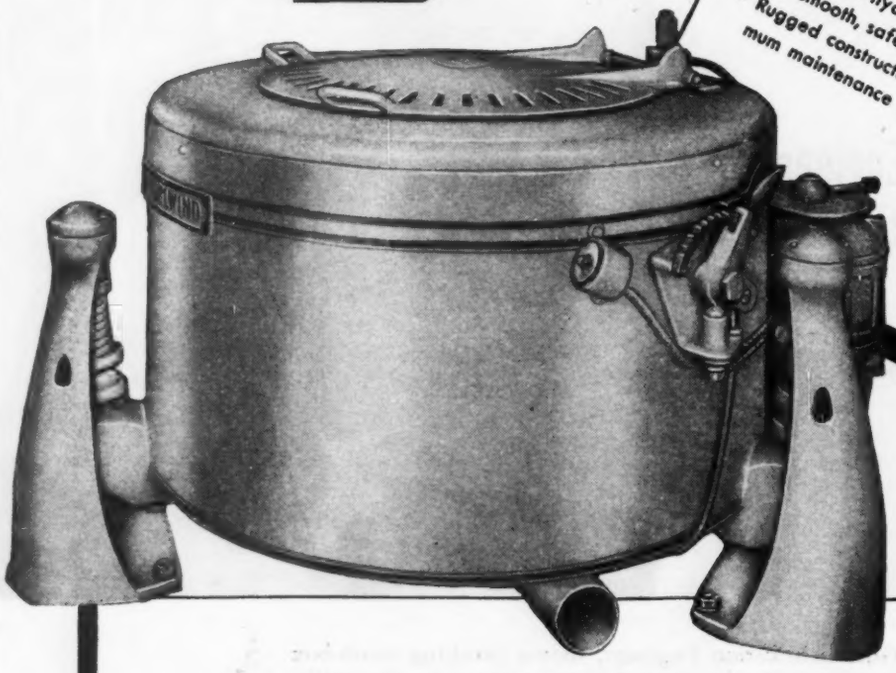
GULF INDUSTRIAL LUBRICATION

# FLETCHER WHIRLWIND EXTRACTOR

## Check these FEATURES

- Easier and faster loading and unloading
- Smooth, rapid acceleration to reach maximum speed and efficiency quickly
- Highest running speed to assure thorough extraction
- Automatic hydraulic brake with Finger Tip Control for smooth, safe stops
- Rugged construction to take hard service with minimum maintenance and repair

*These features explain why Fletcher owners, all over the country, express complete satisfaction with these precision-built machines.*

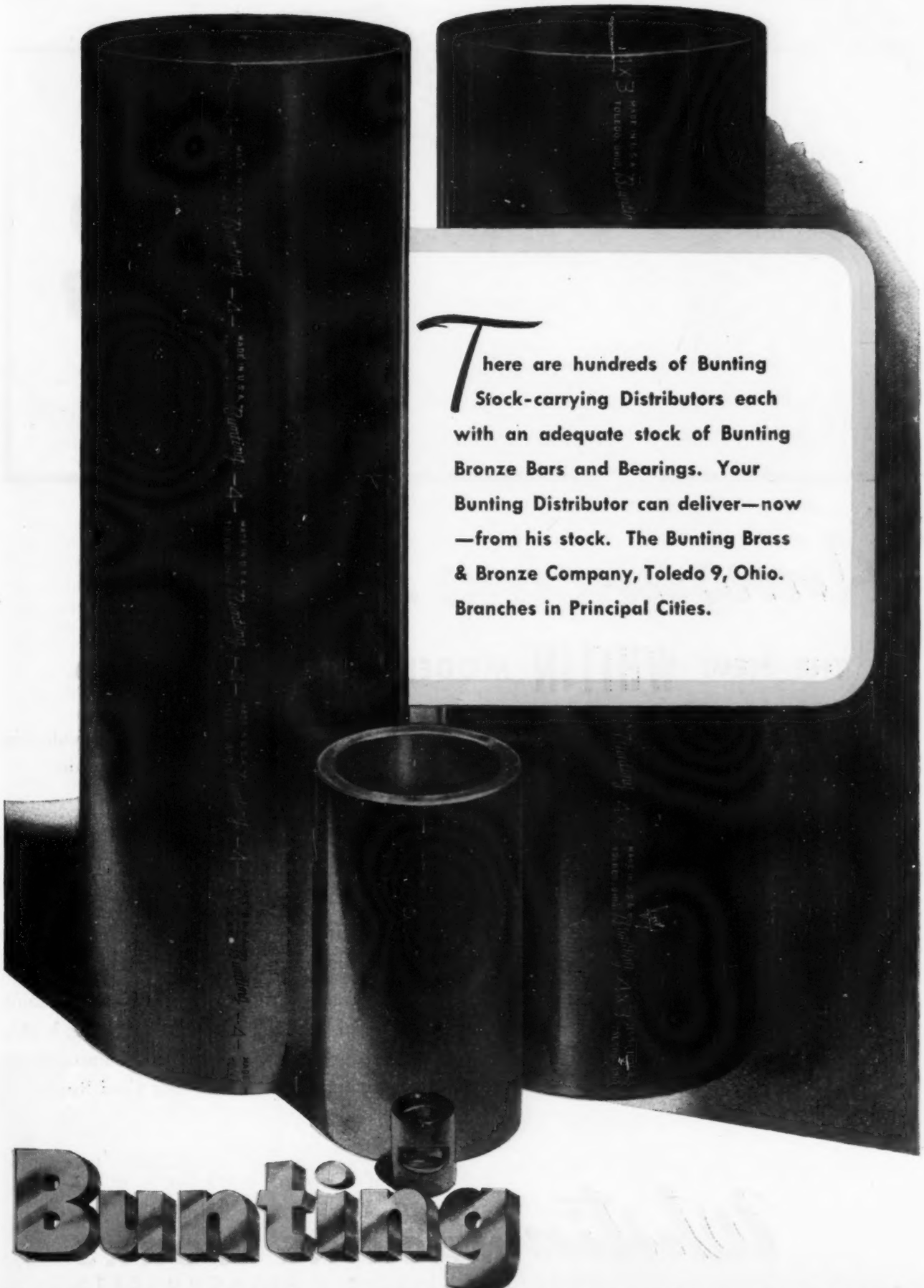


**Just wait until you've used a Fletcher Whirlwind Extractor . . . learned how it whirls out the work . . . watched its smooth acceleration, its high running speed, its even, safe braking and its easy loading and unloading. Noted its rugged, sturdy construction . . . gotten acquainted with its dependable, trouble-free, time- and labor-saving operation and its ready answer to your demand for fast, safe thorough extraction.**

**Remember, it pays to investigate before investing in an extractor . . . so why not write for our catalog, today. Engineering consultation is available without obligation.**

# FLETCHER WORKS

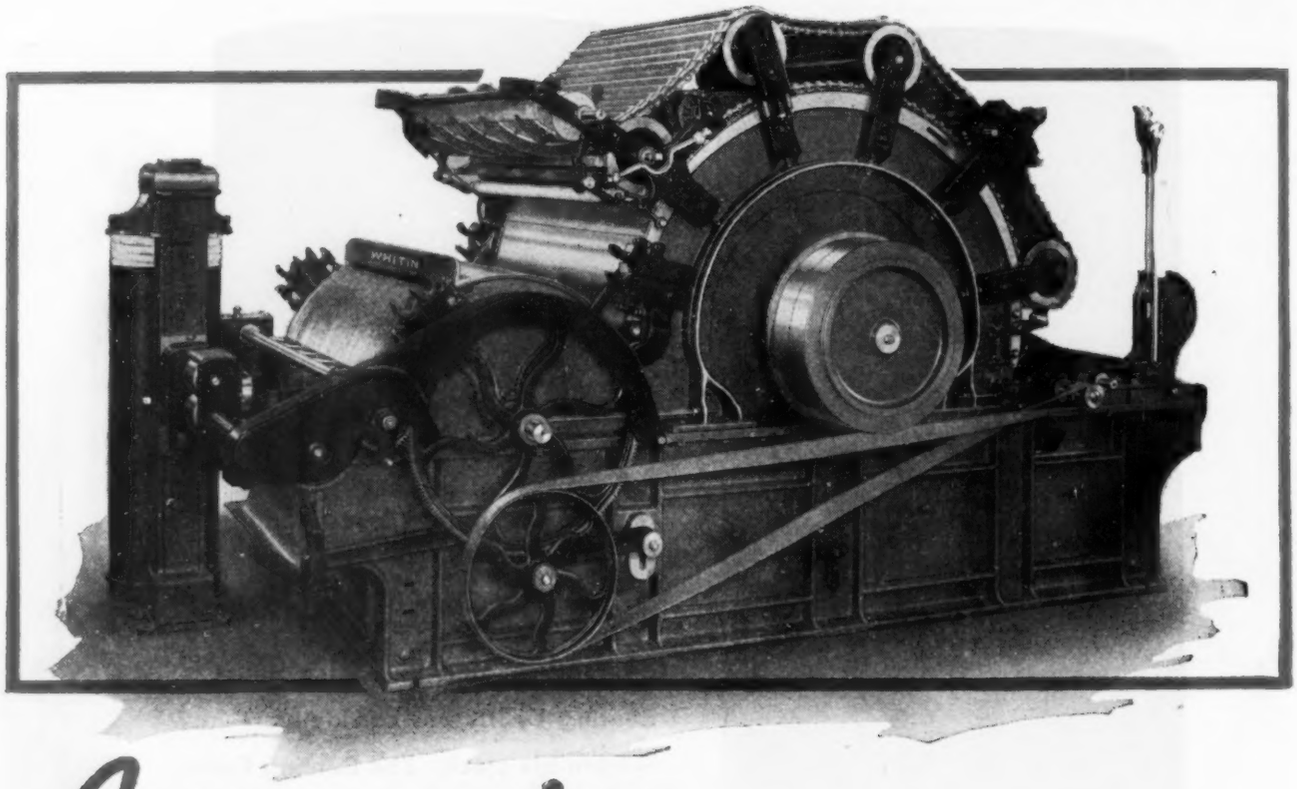
225 GLENWOOD AVE. PHILADELPHIA 40, PA. ESTABLISHED - 1850



There are hundreds of Bunting Stock-carrying Distributors each with an adequate stock of Bunting Bronze Bars and Bearings. Your Bunting Distributor can deliver—now—from his stock. The Bunting Brass & Bronze Company, Toledo 9, Ohio. Branches in Principal Cities.

# Bunting

BRONZE BEARINGS ☆ BUSHINGS ☆ PRECISION BRONZE BARS



# *Announcing...*

## THE NEW WHITIN MODEL "L" COTTON CARD

This new model Revolving Top Flat Card for cotton has been completely redesigned to incorporate many important improvements. Outstanding among these are:

- Card frame, cylinder bearing pedestals, and arches have been strengthened to provide greater rigidity which is especially beneficial in maintaining card settings.
- Improved Top Flat Drive, Spiral Brush Drive, Coiler and Calender Drives are provided.
- Feed Roll weighting has been simplified, and the Feed Plate has been strengthened to resist pressure deflection.
- Oilite bearings have been provided in many locations to insure better lubrication.
- All gears have cut teeth for quieter operation.
- Surfaces and Contours have been restyled to facilitate cleaning.
- Adjustments can be made with greater ease and convenience.
- These features and many others combine to make this model a smoothly operating, highly efficient Card. We believe it would improve the operation and efficiency of your Card Room.

*Catalog available on request.*
*Mail requests to Department A3*

**Whitin MACHINE WORKS**
WHITINSVILLE • MASSACHUSETTS
CHARLOTTE, N. C. ATLANTA, GA.

*In Order that Your Mill Can More Economically Produce the Fabrics It Is Manufacturing*

We have invested hundreds of thousands of dollars to produce the most

*Efficient*

**FLAT STEEL HEDDLE**

that man and science can create.

That is why we have gone to the expense to design and make

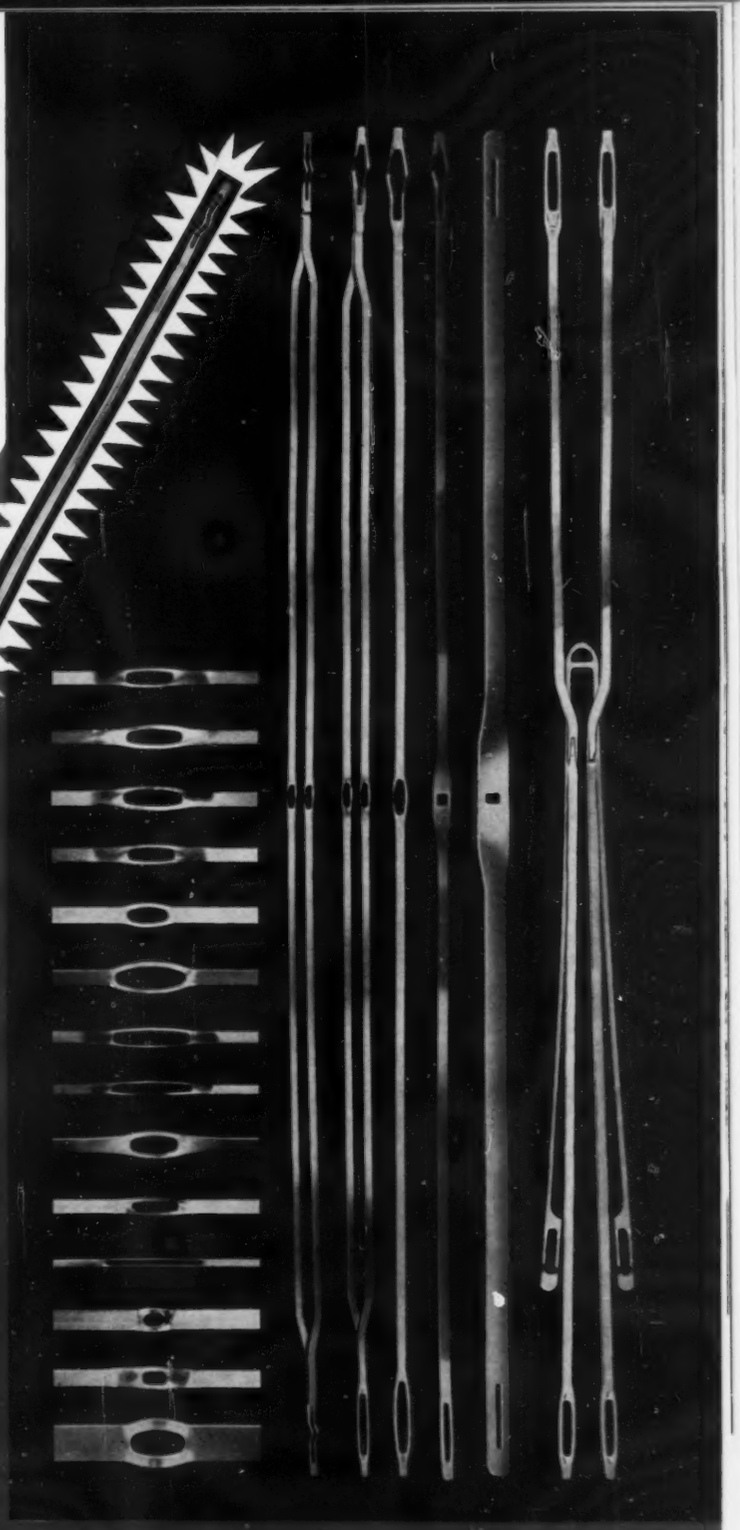
Over 1,000 Different Types of Heddles in size, thickness, design of Eye, etc.

To us, this otherwise simple, innocent looking little piece of flat steel is the result of a life's work and study.

We are supplying the bulk of the Textile Industry with their Loom Harness Equipment.

If you are not enjoying the great advantages offered by this complete organization, contact us today.

Don't buy just "Heddles" —consult our experienced specialists — old weavers who will gladly work with you to perfect your product (without obligation).



# STEEL HEDDLE MFG. CO.

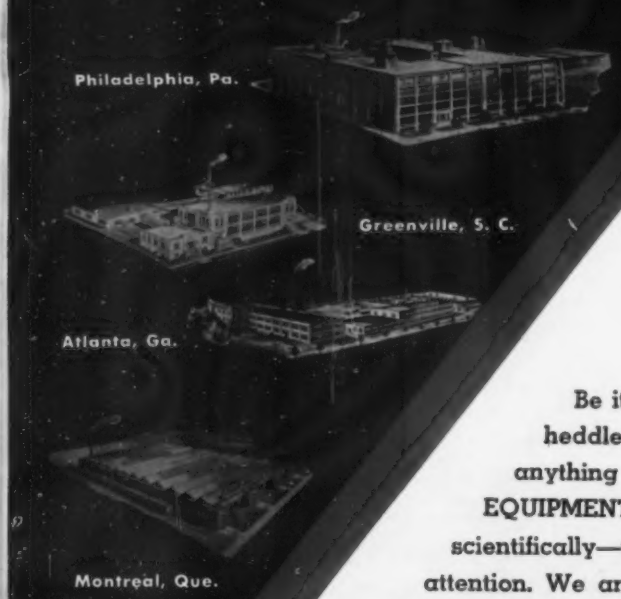
2100 W. ALLEGHENY AVE., PHILADELPHIA 32, PA.

*and* **SOUTHERN SHUTTLES DIVISION**

621 E. McBEE AVE., GREENVILLE, S. C.

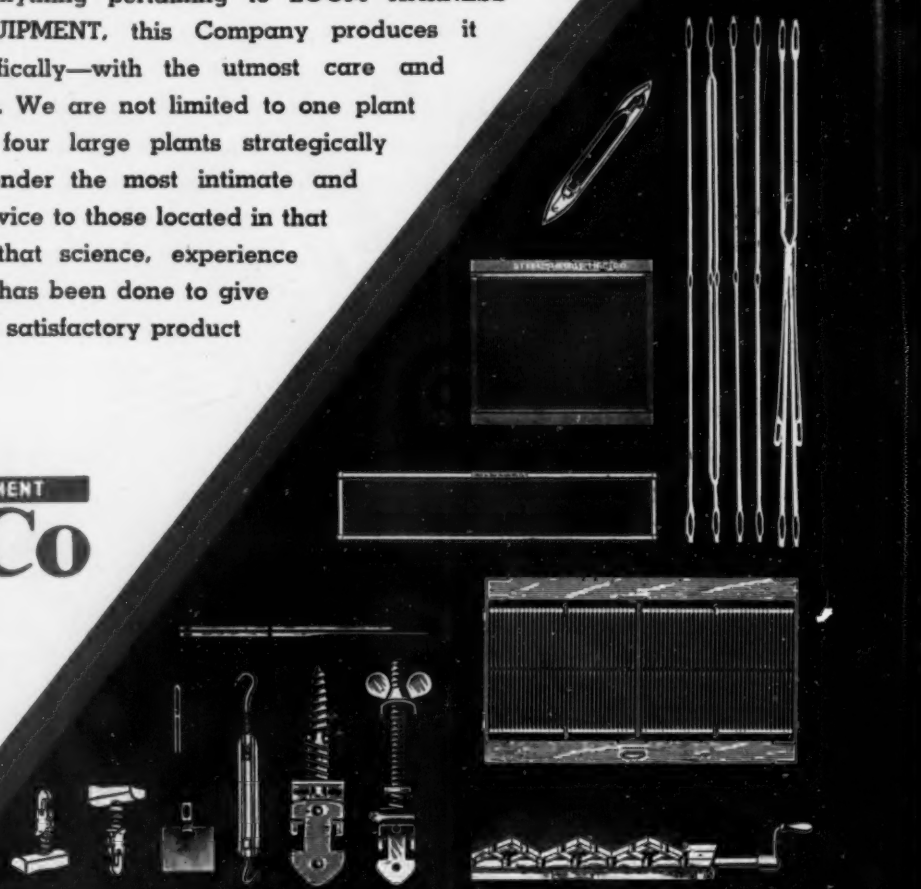
*Other Offices and Plants*

Atlanta, Ga. • Greensboro, N.C. • Providence, R.I. • Montreal, Can.




# Products of Science

Be it a delicate silk heddle or a heavy duck heddle—a frame—reed—shuttle—or in fact anything pertaining to LOOM HARNESS EQUIPMENT, this Company produces it scientifically—with the utmost care and attention. We are not limited to one plant but have four large plants strategically located to render the most intimate and personalized service to those located in that area. Everything that science, experience and money can buy has been done to give you, the user, the most satisfactory product you can buy.



QUALITY LOOM HARNESS EQUIPMENT

## Ste-Hed-Co

## LOOM HARNESS EQUIPMENT

# STEEL HEDDLE MFG. CO.

**2100 W. ALLEGHENY AVE., PHILADELPHIA 32, PA.**

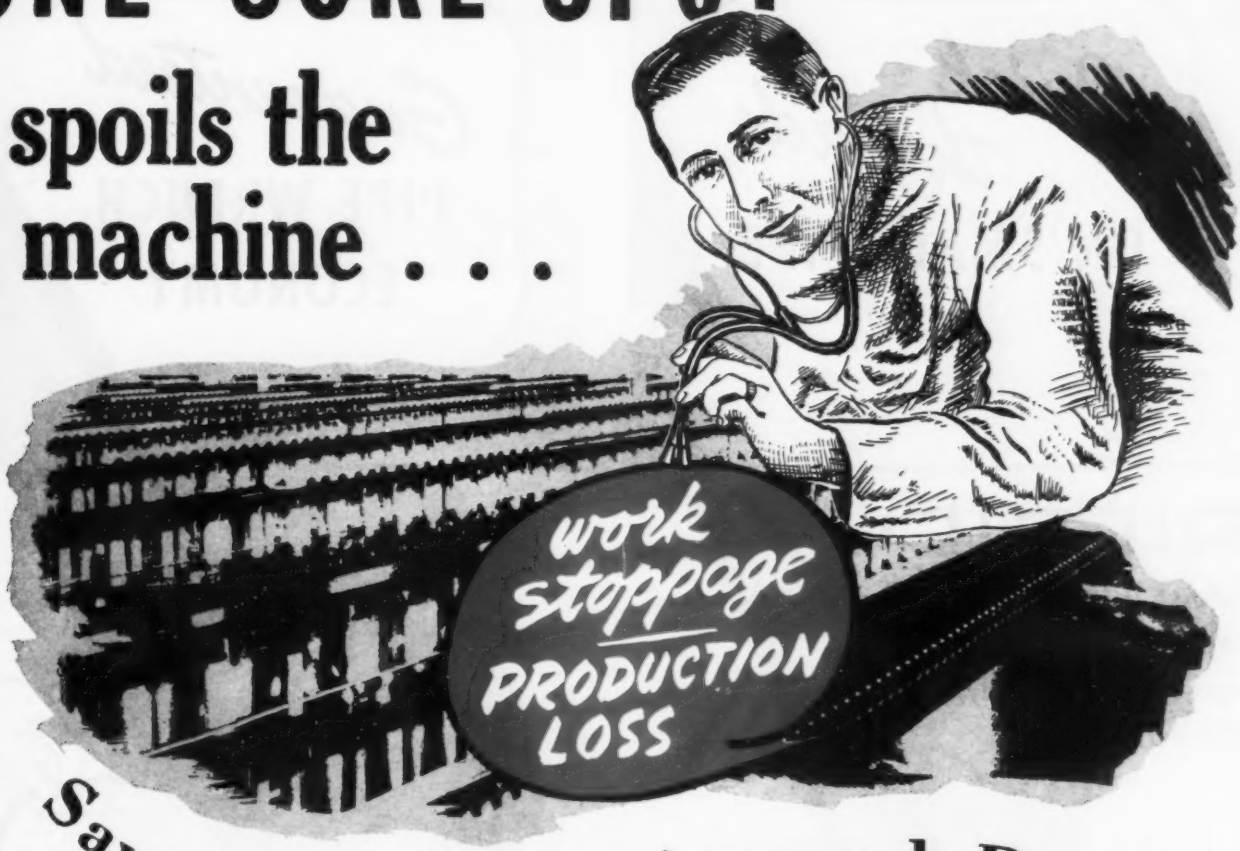
*and* **SOUTHERN SHUTTLES DIVISION**

**621 E. McBEE AVE., GREENVILLE, S. C.**

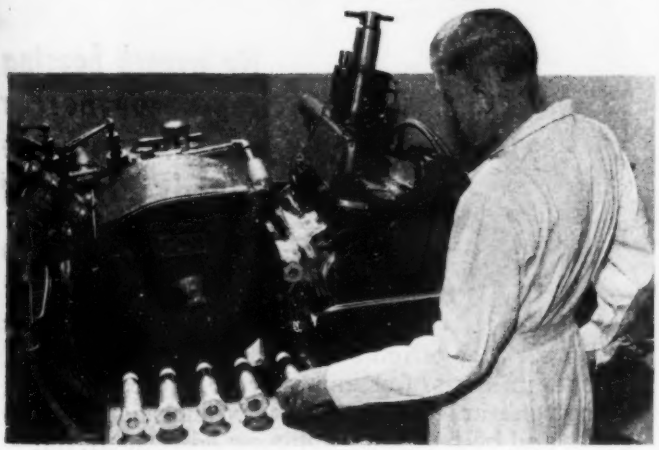
OTHER PLANTS & BRANCH OFFICES

**Atlanta, Ga. • Greensboro, N. C. • Providence, R. I. • Montreal, Can.**

# ONE SORE SPOT spoils the machine . . .




## Save with B * Engineered Parts!



**One of the Nation's Finest**

**Bouligny now offers specialized engineering and equipment for producing longer lasting machine parts that require heat treating of steels, precision grinding, machining and electro-plating. Above is one of our modern centerless grinding machines—part of the equipment which gives Bouligny unsurpassed parts grinding facilities.**

Don't take it sitting down—this continual breakage or too frequent wearing out of the same type parts in your machines. It may call for only a simple re-designing job or a change in the type of metal used—to prevent the enormous loss due to work stoppage and loss of production. As trouble shooters for machine sore spots, Bouligny engineers and metal working facilities have already helped to reduce Recurring Parts Failure for a number of manufacturers. Your inquiry is cordially invited.

*Precision Parts : : Complete Assemblies*

**Manufacturing Division**

**R. H. Bouligny Inc.**

*ENGINEERS OF LONGER LASTING MACHINE PARTS*

Charlotte, N. C.

# Quick threads ON SMALL PIPE

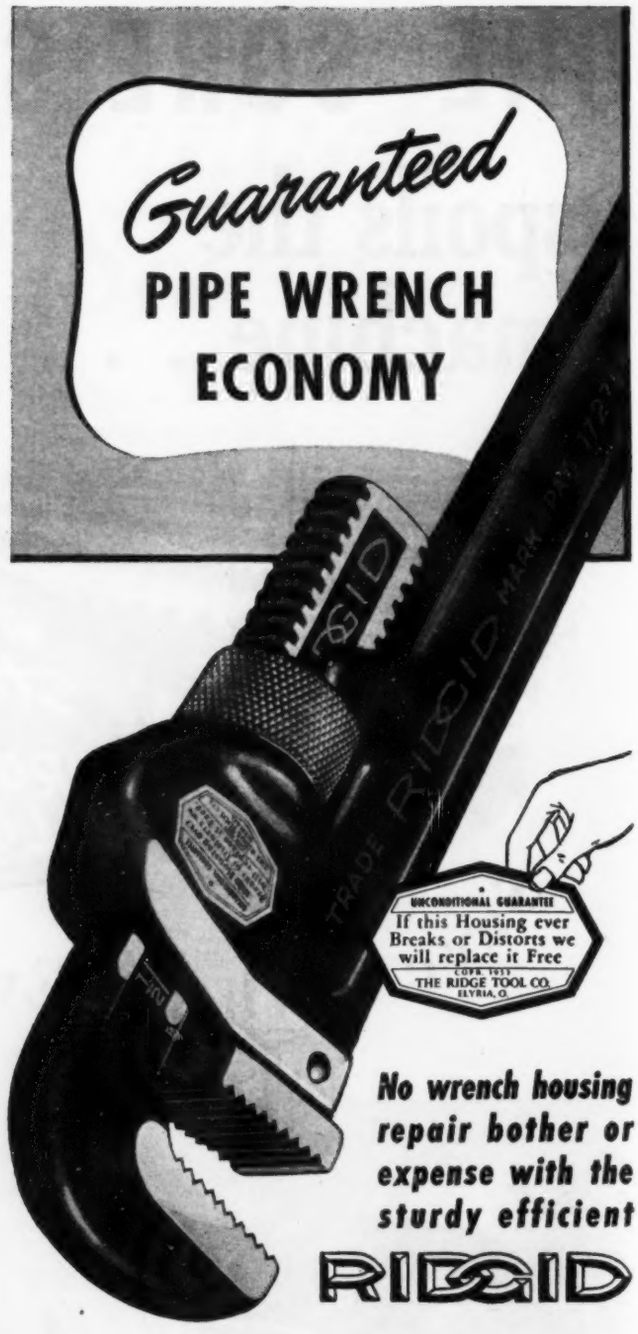
**RIDGID**

***Ratchet Threaders Nos. 00R and 111R for 1/8" to 1¼" pipe are fast, handy, efficient.***

● Least possible bother when you thread pipe with these smart little RIDGIDs. Die heads snap into ratchet ring from either side, can't fall out. No special dies needed for close-to-wall threads. Heat-treated tool-steel dies for clean smooth threads. No. 00R, 1/8" to 1"; No. 111R, 1/8" to 1¼". Ask for these efficient durable small RIDGIDs at your Supply House.

*Free handy carrier for any group of sizes.*

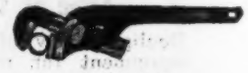
# Guaranteed PIPE WRENCH ECONOMY




***No wrench housing repair bother or expense with the sturdy efficient***

**RIDGID**

● So strong, efficient and trouble-free it's no wonder millions of users prefer it. And economical—that guarantee saves you all wrench housing expense and bother. Easy-spinning adjustment nut—in all sizes, 6" to 60". Positive-action jaws, handy pipe scale on hookjaw, comfort-grip handle. For top wrench value buy work-saver RIDGIDs—at your Supply House.



*End pattern for pipe in coils, against flat surfaces.*

**RIDGID** **WORK-SAVER PIPE TOOLS**
THE RIDGE TOOL COMPANY • ELYRIA, OHIO

*Nalex*
FOR WARP SIZING WORSTED YARNS

# *to accent smoothness*

NALEX smooths out worsted weaving inefficiencies: It is a chemically refined warp sizing starch that reduces cooking to 30 minutes; eliminates binders; is non-congealing; and maintains its refinery controlled viscosity without the addition of enzymes or chemicals.

NALEX smooths out worsted finishing: It discourages lump formations; penetrates uniformly; dries faster; adheres all fibers over their major lengths; and forms a strong, continuous film that permits an excellent closed in effect after weaving.

NALEX smooths out worsted styling: It provides the fashion designer with a cloth that has a pleasing appearance and hand; brilliantly retained coloring; and easy-to-wear elasticity.

NALEX is equally suitable for worsted and fine combed cotton yarns. It offers readily proven savings of $500 to $1000 a carload over ordinary warp sizes. Ask for a trial demonstration—NOW!

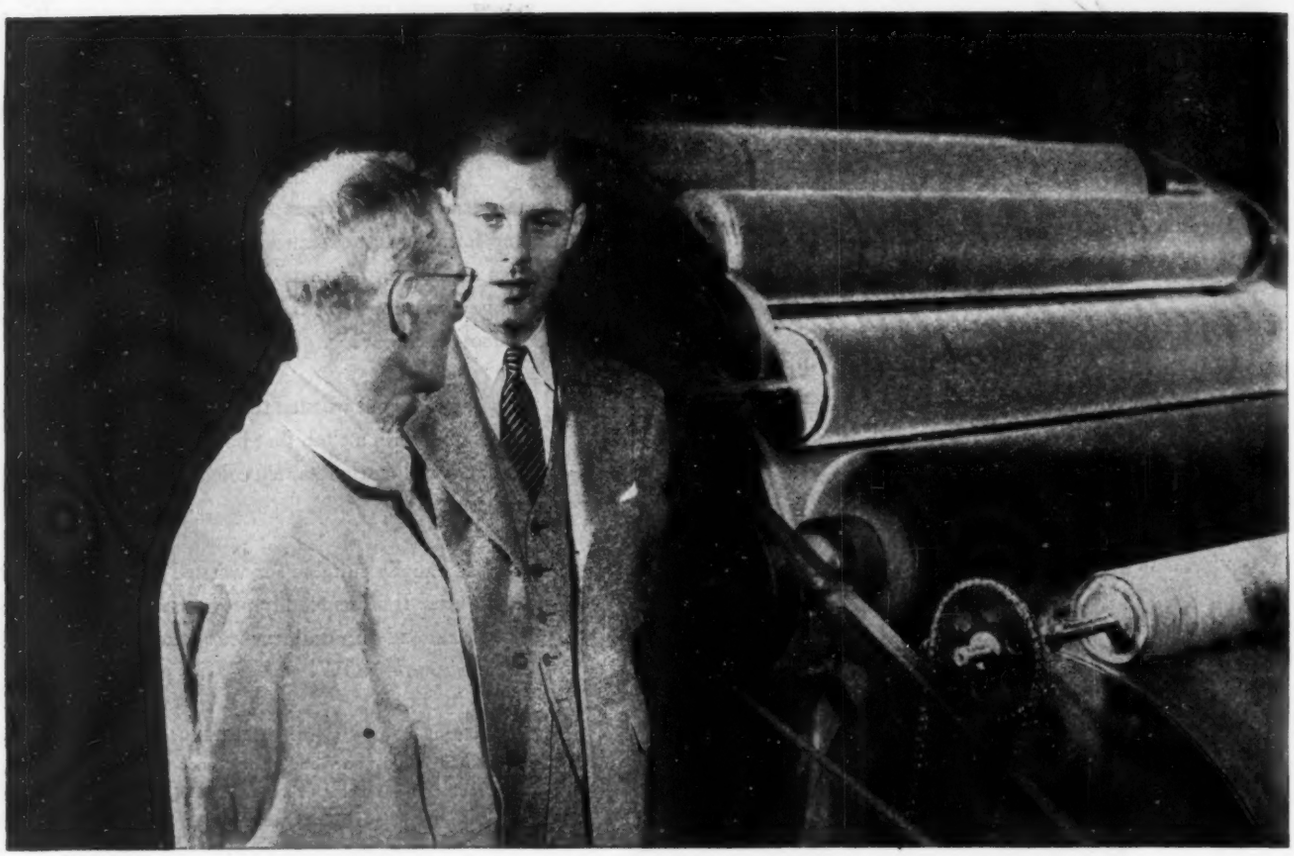
Photo courtesy of:
A. D. JUILLIARD & CO., INC.

National also produces: **FIBERTEX** for textile finishing; **AMBERTEX,** a heavy-bodied thickener for white discharge, direct and vat color printing; **FLOTEX,** to replace natural gums for printing; **FLOJEL,** uniform, thin boiling corn starches in all standard fluidities; **HOOSIER** Pearl Cornstarch.

*Offices:* 270 Madison Avenue, New York 16; Boston, Philadelphia, Atlanta, New Orleans, Indianapolis, Chicago, San Francisco and other principal cities. In Canada: Meredith, Simmons & Co., Ltd., Toronto. In Holland: Nationale Zetmeelindustrie. N. V., Veendam.

**National**
**STARCH PRODUCTS**

**STARCHES — AND *SPECIALTIES WITH EASILY DEMONSTRATED SUPERIORITY***



# "TUFFER" Men Help Carders to get *Better Results*

HOWARD-MADE products, backed by 80 years experience in the manufacture of card clothing, are only part of the service we offer you. We know that mills welcome assistance that speeds up production, makes tough jobs easier, and increases efficiency.

That's why we invite you to talk over your problems with a Howard representative. You will find him qualified to help you get better carding results. Your dealings with him will be confidential in every way—and, of course, there's no obligation on your part.

Contact your nearest Howard plant or branch office.

**HOWARD BROS. MFG. CO.**
WORCESTER 8, MASSACHUSETTS

**Southern Plants:** Atlanta, Ga. and Gastonia, N. C. **Branches:** Philadelphia, Pa. and Blanco, Texas

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A-5

TUFFER CARD CLOTHING **IMPROVES PRODUCTION ALL ALONG THE LINE**

# RIEGEL TEXTILE
## *Mounts Its Looms and Warpers on*

# UNISORB
## without
## BOLTS OR LAG SCREWS

Draper Looms and Barber-Coleman High Speed Warpers in the Riegel Textile Corporation's mills at Ware Shoals, S. C., are anchored on wood floors with Unisorb without bolts or lag screws. This modern method of anchoring is simple, quick and inexpensive. A special cement binds the Unisorb to the machine feet and the floor — permanent set absolutely prevents any riding.

By controlling vibration, Unisorb reduces shutdown hours — saves on machine repairs and building maintenance. By providing quieter surroundings, it increases efficiency — helps toward greater production.

Send for sample and complete specifications.

LOOK FOR THE RED CENTER AND UNISORB BRAND MARK

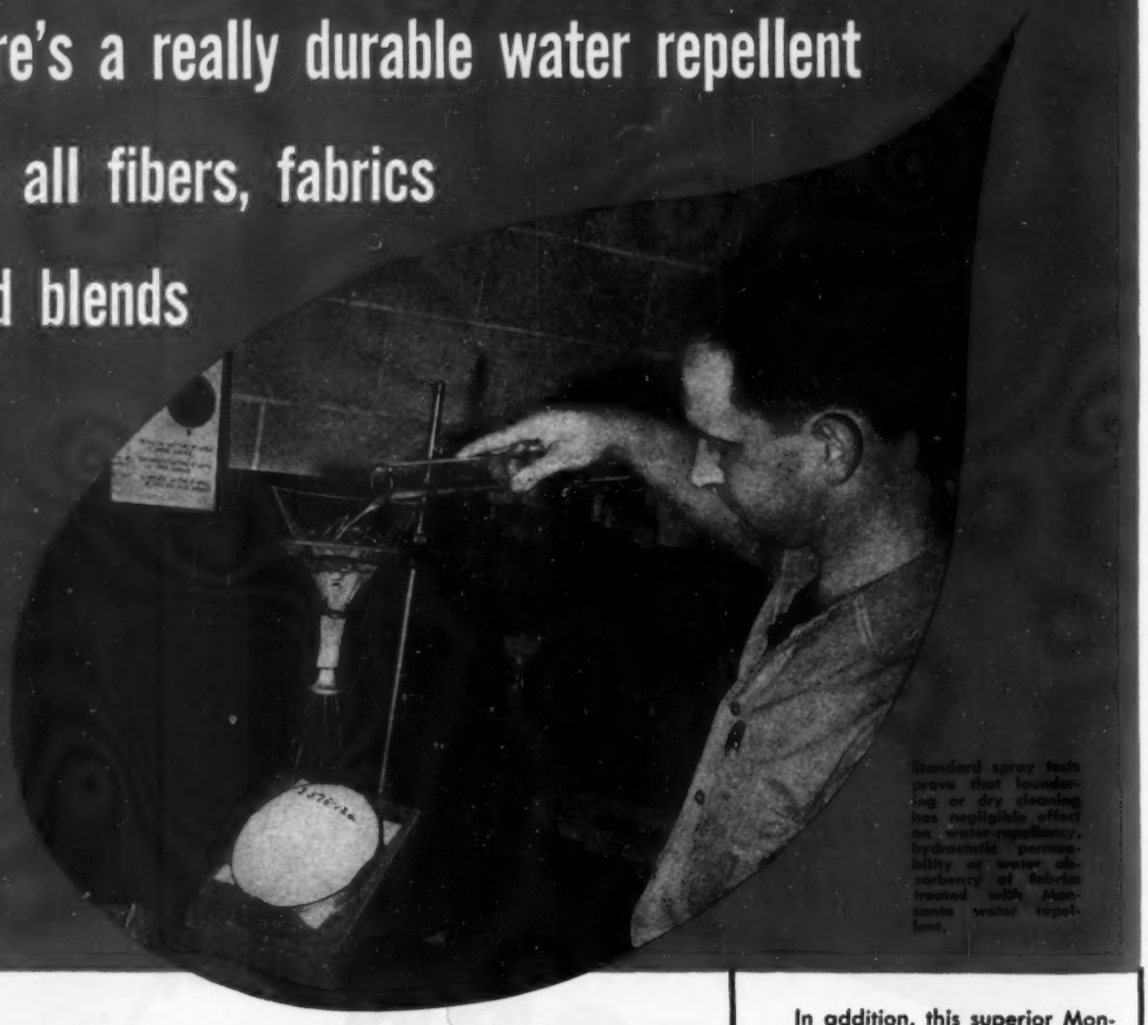
## THE FELTERS COMPANY

**210-N SOUTH STREET, BOSTON, MASSACHUSETTS**

*Offices:* New York, Philadelphia, Chicago, Detroit
*Sales Representatives:* San Francisco, St. Louis.
*Mills:* Johnson City, N. Y.; Millbury, Mass.; Jackson, Mich.

*Foreign Representatives*: ARGENTINA — PARAGUAY: Roberto Zander, 345-353 Juan Jaures, Buenos Aires; BRAZIL: Cia Industria E. Comercio Glossop, Rua Visconde de Inhauma, 62, Caixa Postal, 265, Rio de Janeiro; Rua Florencio de Abreu 438/442, Caixa Postal, 1546, Sao Paulo; CHILE: W. L. Robinson, Casilla No. 4075, Santiago; COLOMBIA: C. E. Halaby & Co., Ltd., Airmail Box 650, Medellin; EASTERN MEDITERRANEAN AREA: The Arlind Corp., 509 Madison Avenue, New York 22, N.Y.; URUGUAY: Roberto Zander, Montevideo Ltda., Calle Uruguay, 1711, Montevideo; VENEZUELA: Herbert Zander & Co., P. O. Box 1291, Caracas.

# here's a really durable water repellent for all fibers, fabrics and blends



Standard spray tests prove that laundering or dry cleaning has negligible effect on water-repellency, hydrostatic permeability or water absorbency of fabrics treated with Monsanto water repellent.

**This new Monsanto water repellent makes exciting news with *two* important features:**

**FIRST**

*Durable* water repellency, fast to repeated laundering or dry cleaning.

**SECOND**

Outstanding effectiveness on *all* textile fibers including wool, aralac, nylon, acetate, cotton, rayon and mixtures of these fibers.

**In addition, this superior Monsanto water repellent gives you these definite advantages:**

1. Increased textile strength
2. Freedom from objectionable odors
3. Ease of application
4. Imparts soft dry finish
5. Outstanding spot resistance

**For complete technical information, samples and counsel on adapting Monsanto water repellent to your fabrics, write, wire, phone: MONSANTO CHEMICAL COMPANY, Textile Chemicals Department, 140 Federal Street, Boston 10, Massachusetts.**

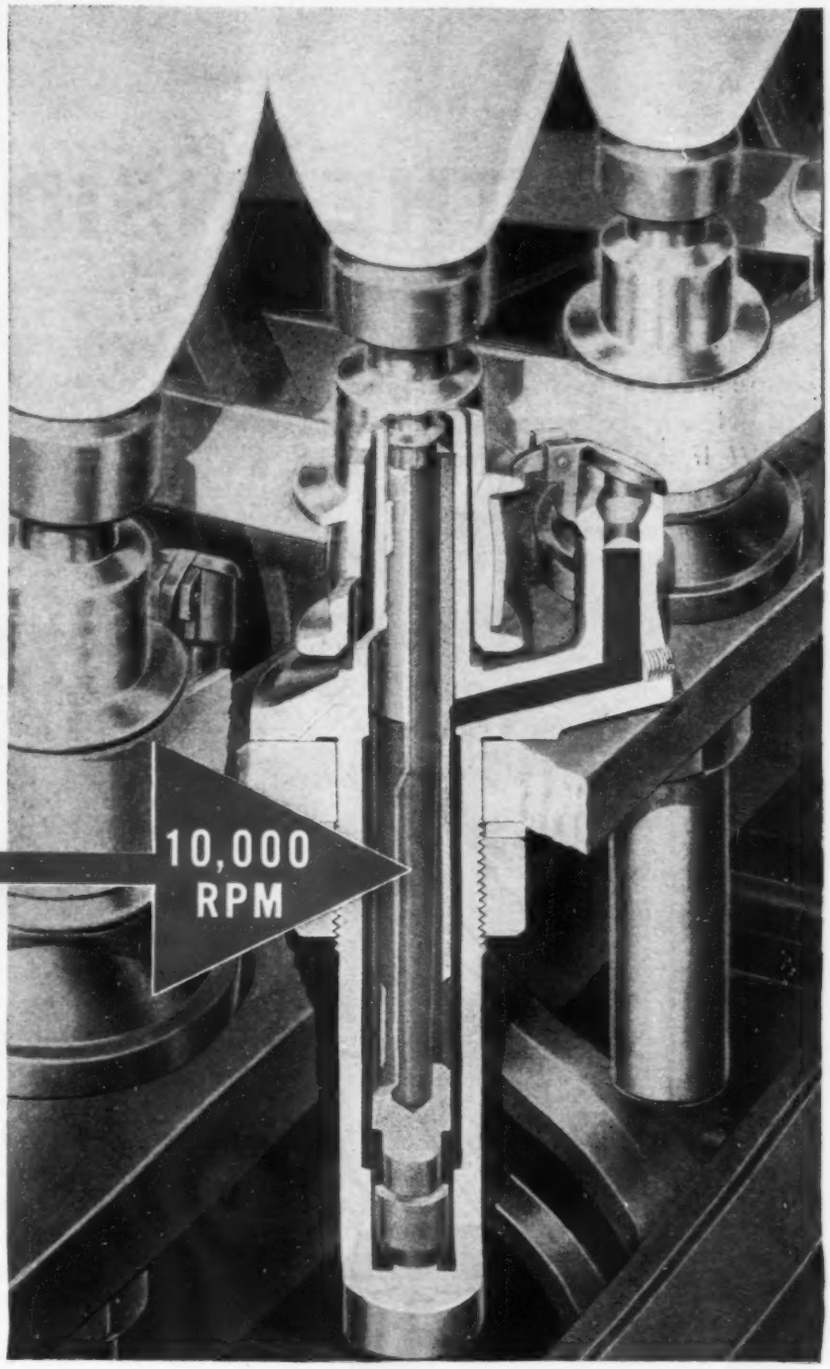
MONSANTO
CHEMICALS AND PLASTICS
SERVING INDUSTRY WHICH SERVES MANKIND

**Inside Knowledge on Lubrication Problems**

**– SPEED –**

This is One of a Series of Messages on Common Problems in Your Plant

# Pacing a Whirl-wind




SPINNING at 10,000 revolutions a minute, this textile spindle is one of the fastest-moving mechanisms in all industry.

Speed like this means special opportunities for friction, wear and vibration. An unsuitable oil may act as a "drag" on the spindle, increasing power consumption.

Quick-acting Gargoyle Velocite Oils are the answer.

**FIRST,** their unusual lubricity and resistance to thickening and gumming keep spindles spinning freely . . . minimize friction and spindle "drag."

**SECOND,** they bond intimately with metal . . . STAY PUT in spite of terrific speed, guard against wear and dampen vibration.

**THIRD,** their unusual stability and long life minimize "black oil" formation, reduce the necessity for cleaning spindle bases and blades.

Get these oils in your spindles now for lower maintenance costs, important power savings!

SOCONY-VACUUM OIL CO., INC.
and Affiliates: Magnolia Petroleum Company
General Petroleum Corporation

GARGOYLE Lubricants

SOCONY-VACUUM

TUNE IN THE MOBILGAS PROGRAM — MONDAY EVENINGS, 9:30 E.S.T. — NBC

## Socony-Vacuum Correct Lubrication

**FOR EVERY MACHINE . . . EVERY OPERATING CONDITION**

# SAVE THE INSIDE

## . . . AND YOU SAVE THE TANK!

Don't let loss of metal caused by rust and corrosion on the inside of your tank shorten its life. Let a McLean representative inspect it NOW! If it needs cleaning, repairing, and rust proofing, an estimate will be furnished without any obligation on your part.

## SPECIALISTS IN TANK MAINTENANCE

**NO-OX-ID COATING . . . FLAME PRIMING . . . SPECIALLY DESIGNED TOOLS . . . HIGHLY TRAINED MEN . . .**

McLean's superior workmanship, tools and materials all combine to assure 100% satisfaction.

**WE BUY, SELL, PAINT, REPAIR, MAINTAIN ALL TANKS & STANDPIPES**

## NO-OX-ID

the original chemically compounded rust preventive is unequalled for lining water tanks. Properly sprayed by McLean specialists at 300 degrees, it provides the mechanical protection necessary to prevent corrosion under the film. Its high viscosity permits an even film and produces a smooth, sealed surface that makes the inside of the tank absolutely rust proof. NO-OX-ID lasts indefinitely because it is a tough, *elastic* coating that will not become dry and brittle.

**LET US INSPECT YOUR TANK**

**Write, Wire or Call today . . . Phone 1409 or 1062-Y**

**R·E·McLEAN**

SINCE 1930

POST OFFICE BOX 1062

GASTONIA, N. C.

SANDOZ PRESENTS *the color achievement of the month*

# *Translation From The Oriental* BY KARASTAN

Here, power-loomed in the United States, is a rug that captures the world-famous beauty of a handwoven Oriental. Karastan, a product of Fieldcrest Mills, Leaksville, North Carolina, faithfully preserves the soft and lustrous colors of the original to give the American home a floor covering that would delight an Eastern potentate... at a price that meets the average American budget.

To be sure of colors that, first, are authentic and, second, can be depended on to resist the effects of time and wear, Karastan counts, among its suppliers, Sandoz—the firm that so many look to for colors that are timely—and timeless.

Prominent among Sandoz colors fulfilling the requirements of both the manufacturer and the consumer is the Brilliant Alizarine Milling Blue BL, joined recently by the new Brilliant Alizarine Milling Blue 2RL (pat. app. for), a rich royal blue shade. Both these blues have "men's wear" fastness without the need of chrome. Other colors in this same group are Brilliant Alizarine Milling Blue G and SL, Alizarine Light Brown BL, and Brilliant Alizarine Light Violet FFR.

For acid, chrome or direct dyes... or auxiliary chemicals... for both natural and synthetic fibres... be guided by the successful "color achievements" you have been seeing in these Sandoz advertisements. Sandoz application laboratories are located in New York, Boston, Philadelphia, Los Angeles, Charlotte, Toronto, where stocks in wide range are carried.

Other branches are in Chicago, Paterson and Providence.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N.Y.

SANDOZ *thinks ahead with textiles*

S SANDOZ

# THE FLEXIBLE WINDING MACHINE that gives your customers the one best angle of wind

A major advantage of the exclusive Rotary Traverse, the Roto-Coner's* one-piece driving drum and traverse guide, is the opportunity to wind all counts of yarn without having to change winding speed. There are no cams, so there is no need to sacrifice production when winding the coarser counts.

This also gives an advantage to the knitter because all packages wound on the Roto-Coner* have the same minimum number of winds desirable for trouble-free delivery.

The flexibility of the Roto-Coner* also includes its suitability for a wide range of yarns—cotton, wool, worsted, spun rayon—and of package types—paper cones and tubes, wood cones for warping, wood tubes for twisting, and dye packages.

A new set of traverses is easily installed—there is no grease to make the job messy.

For complete information about the versatility of the Roto-Coner*, request Bulletin 144 (knitting) or 244 (warping).

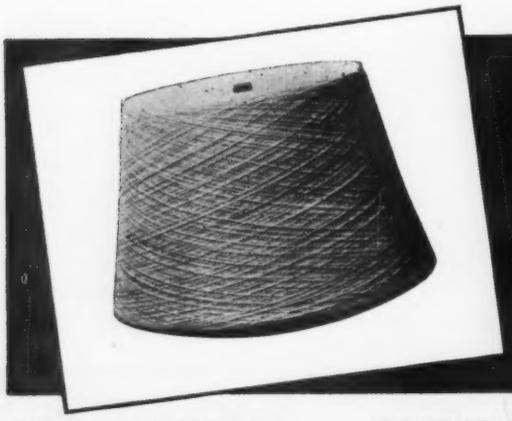
Address Universal Winding Company at Providence, Boston, Utica, Charlotte, Atlanta, Chicago, Los Angeles, Montreal or Hamilton. 23-6-17

**Yarn Quality Protected Against Injury**

The simplicity of the one-piece package driving and yarn traversing device avoids injury to the yarn which might affect subsequent operations. There are no settings to be made—no reciprocating parts to wear. One standard groove arrangement is used for all yarn counts. Slub catchers are set uniformly and locked against getting out of adjustment.

**Easily Convertible from Coning to Tubing**

One side can be equipped for coning, the other for tubing, with a separate Empty Bobbin Conveyor (A, above) for each. When converting, the full shaft of Rotary Traverses is easily lifted out (lower photo) and replaced with another shaft having desired groove arrangement. No grease, no small parts to handle, sort and store.

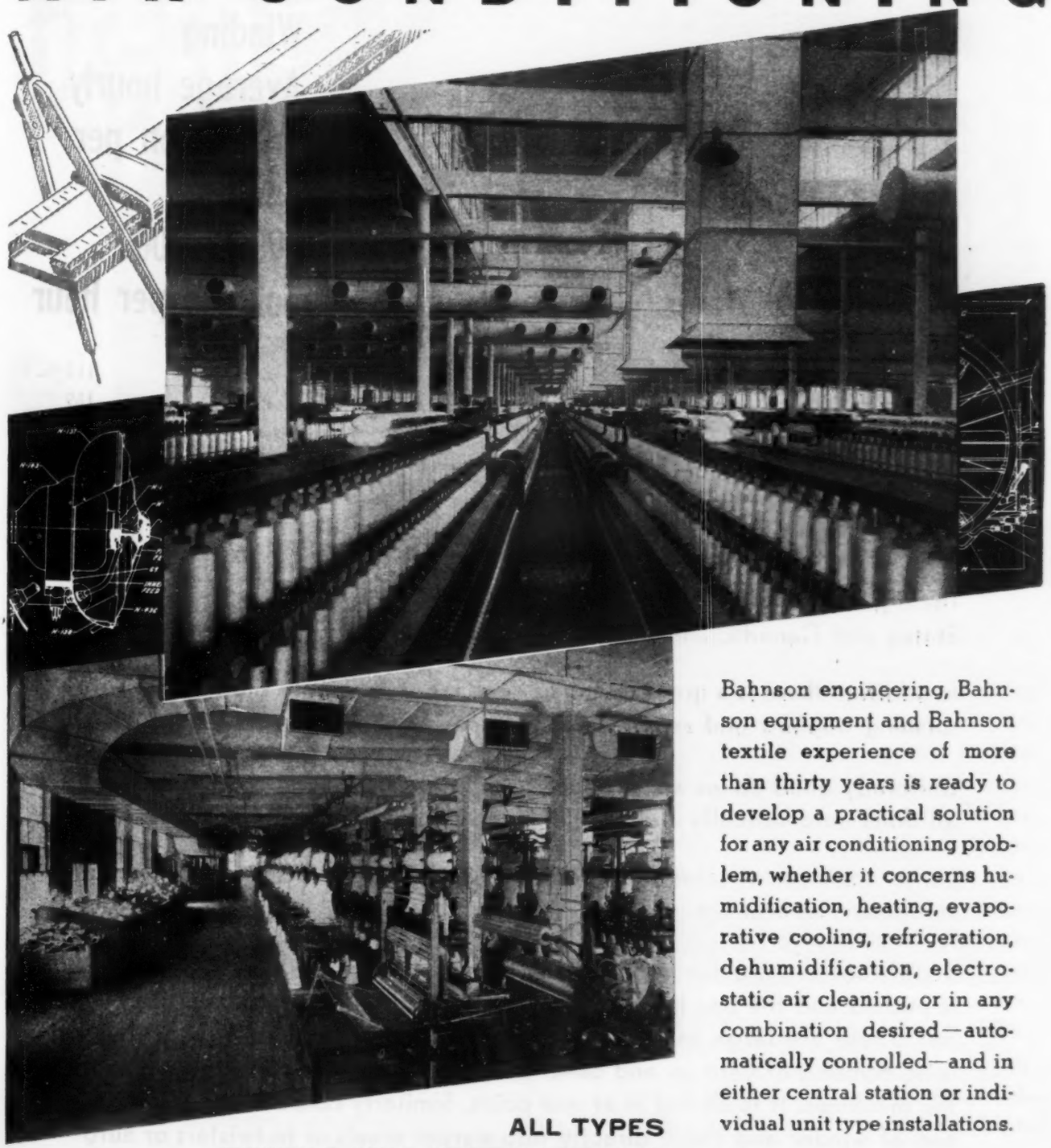


## ROTO-CONER* LEESONA REG. U.S. PAT. OFF.

*Open-Wind Cones for Knitting*

**WARPING CONES • DYEING PACKAGES • PARALLEL TUBES FOR TWISTING**

# ENGINEERED
# AIR CONDITIONING



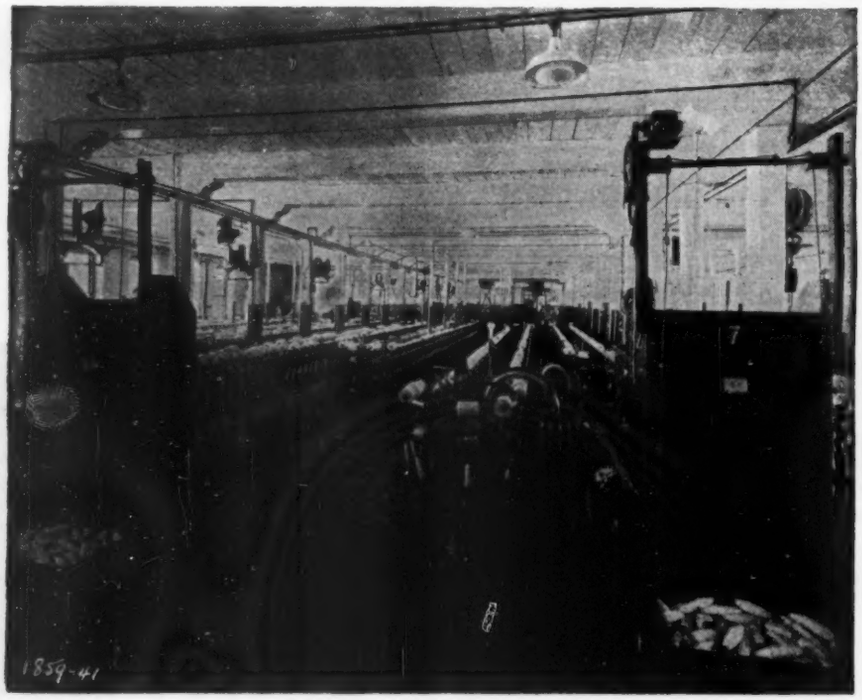
**ALL TYPES**
**TEXTILE MILL INSTALLATIONS**

Bahnson engineering, Bahnson equipment and Bahnson textile experience of more than thirty years is ready to develop a practical solution for any air conditioning problem, whether it concerns humidification, heating, evaporative cooling, refrigeration, dehumidification, electrostatic air cleaning, or in any combination desired—automatically controlled—and in either central station or individual unit type installations.

*Bahnson System*
POSITIVE CIRCULATION · LOWER OPERATING COST
AIR CONDITIONING ENGINEERS
THE BAHNSON CO WINSTON-SALEM, N. C.

886 Drewry St., Atlanta, Ga. 93 Worth St., New York City 703 Embree Crescent, Westfield, N. J. 553 S. Figueroa St., Los Angeles, Cal.
W. J. Westaway Co., Ltd., Hamilton, Ontario A-3 Virginian Apts., Greenville, S. C.

# ABBOTT AUTOMATIC WINDERS




## Winding Average hourly production per operator 900 to 1000 bobbins per hour

| | | | |
|---|---|---|---|
| 2-oz. | Bobbin | ..... | 112 lb. hr. |
| 3-oz. | " | ..... | 169 " " |
| 4-oz. | " | ..... | 224 " " |
| 5-oz. | " | ..... | 280 " " |
| 6-oz. | " | ..... | 338 " " |
| 7-oz. | " | ..... | 380 " " |
| 8-oz. | " | ..... | 448 " " |

These producton figures are being obtained in mills throughout the United States and Canada, and show the lowest direct labor cost of winding.

In addition there is a great saving in floor labor to supply the winders with spinning bobbins and remove wound cones or cheeses.

Uniformly good cones are produced since the operations on the cone are all done automatically and are not dependent on the skill of the operator.

Large cones or cheeses are produced, saving labor in creeling them in subsequent operations.

Supply bobbins are dumped by the doffers into a box at floor level. A lever is pushed and the box is lifted and dumped automatically into a big hopper. These are large enough to eliminate any other storage of yarn. There is no trucking of yarn up and down winder alleys and distributing it along the machines. It is all fed in at one point. Similarly cones are all doffed at end of winder and move directly into warper creels or to twisters or automatic quillers.

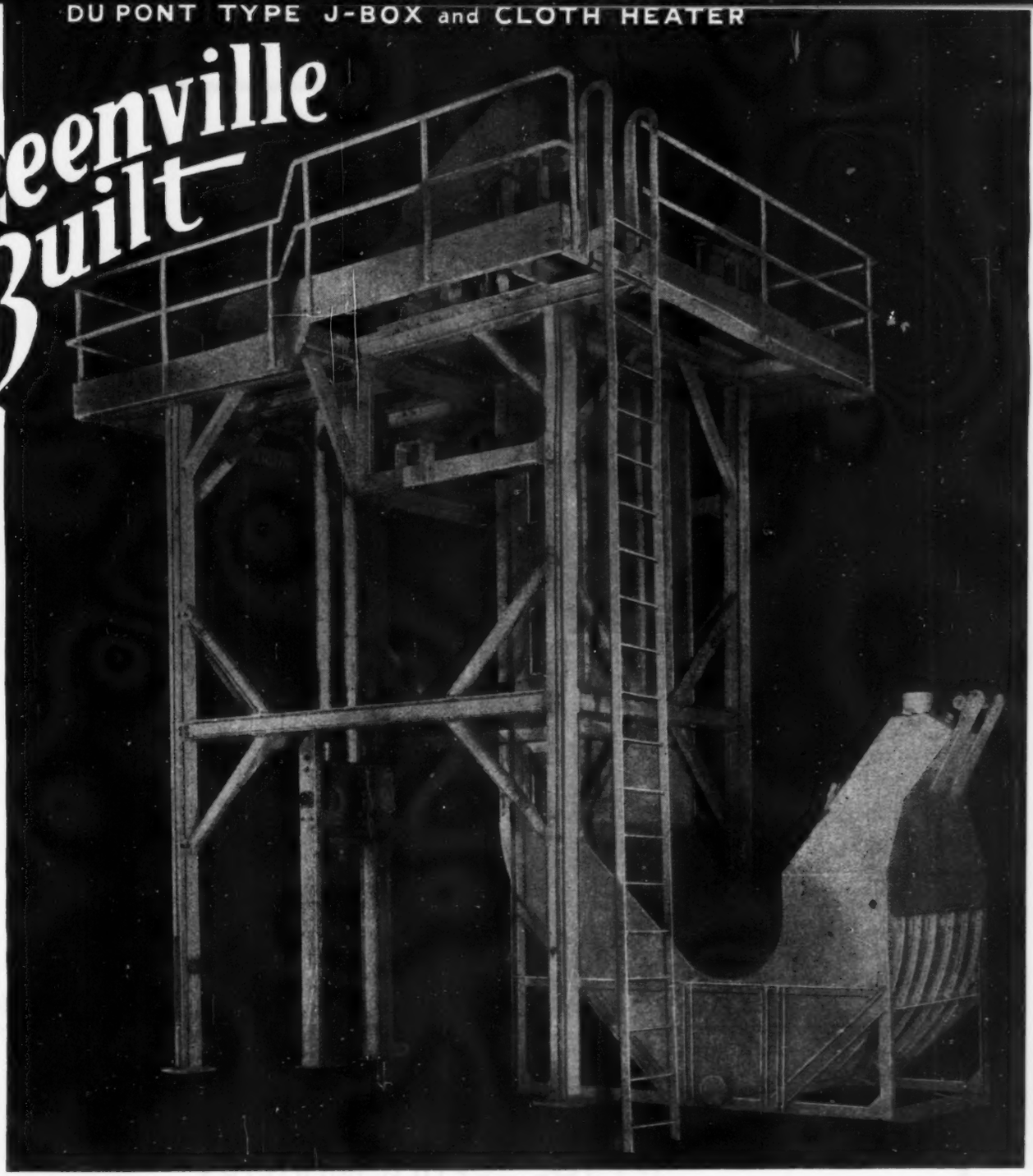
# ABBOTT MACHINE COMPANY

**WILTON, N. H.**

***Southern Representative, L. S. Ligon, Greenville, S. C.***

DU PONT TYPE J-BOX and CLOTH HEATER

# Greenville Built



Greenville Steel & Foundry pioneered in the manufacture of Continuous Peroxide Bleaching Equipment, for both rope and open width ranges. Today, Greenville installations . . . including Washers, Squeezers, Saturators and "J" Boxes . . . are making production miracles commonplace in leading mills throughout the country. Consult us *now* . . . Continuous Bleaching Equipment is a forward step in cutting production delays, improving quality, and assuring greater profits.

*In addition to the installations listed below, we have orders for 8 ranges, including 2 repeat orders from 2 of the large bleacheries listed here.*

**MANSFIELD BLEACHERY**
Mansfield, Mass.

**CLEARWATER MFG. CO.**
Clearwater, S. C.

**CANNON MILLS**
Kannapolis, N. C.

**ROCK HILL PRINTING AND FINISHING CO.**
Rock Hill, S. C.

**LOWELL BLEACHERY, South**
Griffin, Ga.

**JOS. BANCROFT & SONS CO.**
Wilmington, Del.

**RIVERSIDE & DAN RIVER COTTON MILLS**
Danville, Va.

**SAYLES FINISHING PLANTS**
Saylesville, R. I.

## GREENVILLE STEEL AND FOUNDRY CO.

*Designers. Fabricators and Erectors*

GREENVILLE, SOUTH CAROLINA

# 40

*Years*

★

AS ELECTRICAL CONTRACTORS
TO THE TEXTILE INDUSTRY

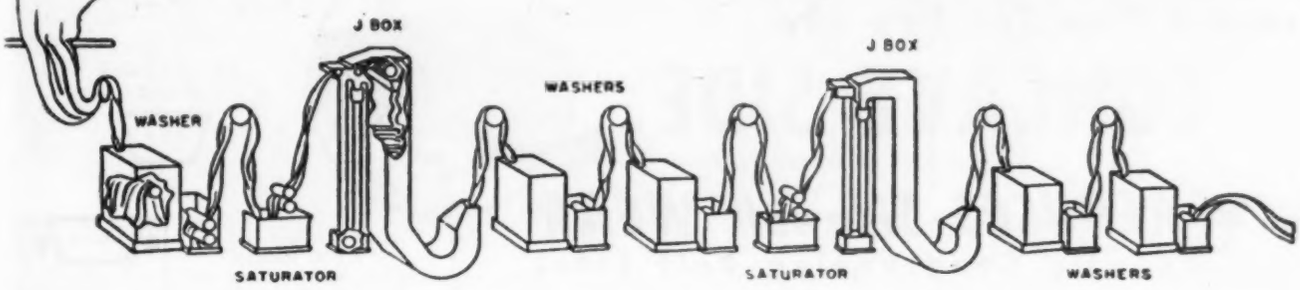
★

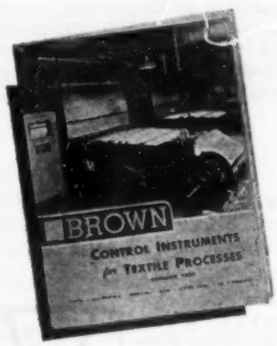
**J. M. CLAYTON COMPANY**

*Contracting Electrical Engineers*

ATLANTA, GEORGIA ESTABLISHED 1907

# IS IT WISE... To COMPROMISE in Continuous Bleaching?




**SEND FOR YOUR FREE COPY**

This new informative 32-page catalog contains drawings, photographs and descriptions of many textile processes complete with instrumentation. Every textile mill executive will want to have a copy. Send for Catalog 9305 today.

Beware of a compromise in the instrumentation of continuous bleaching systems. A compromise may seriously affect product quality and economy of operation.

Continuous bleaching ranges are now being made to handle up to 300 yards per minute. Astounding to be sure . . . but at such tremendous speeds temperature fluctuations can occur swiftly and have far-reaching effect. Improper temperature for only one minute means 300 yards incorrectly processed.

Fortunately, the speed of the Brown ElectroniK Potentiometer, operating on the "Continuous Balance" principle, forestalls such harmful temperature fluctuations. Rapid *detection and correction* of the slightest temperature change prevents any appreciable deviation from occurring. Only the Brown ElectroniK Potentiometer provides "Continuous Balance."

### *Continuous Bleaching* needs "Continuous Balance".

*In the early stages of continuous bleaching a complete range was made available to Brown Engineers for research tests. An important result was the scientific selection of the proper equipment for each phase of the complete control job. The broad line of Brown Instruments covers every requirement of continuous bleaching systems. Thus, complete instrumentation can be the responsibility of one experienced manufacturer.*

At the planning stage, call in your local Brown Engineer. His advice, based on actual experience, is available without obligation.

THE BROWN INSTRUMENT COMPANY, a division of Minneapolis-Honeywell Regulator Company, 4492 Wayne Avenue, Philadelphia 44, Pa. Offices in all principal cities.

TORONTO, CANADA LONDON, ENGLAND STOCKHOLM, SWEDEN AMSTERDAM, HOLLAND

BROWN *Electronik* POTENTIOMETERS

## You See at Once That the

# SIDE *of a V-BELT*

## is the part that GETS the WEAR

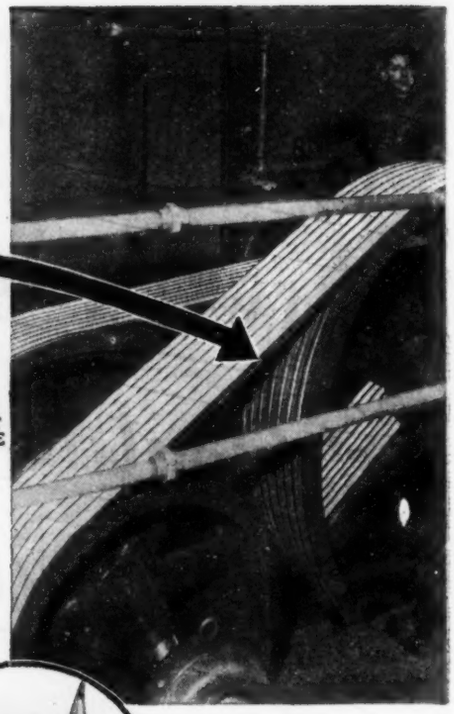


DIAGRAM OF V-BELT IN SHEAVE

Naturally so, because the sides of a V-belt do all the gripping on the pulley. They get all the wear against the sheave groove wall.

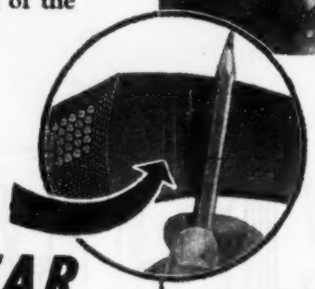
It's the sides, too, that pick up all the power delivered by the driver pulley. The sides transmit that power to the belt as a whole. And then, once more, it's the sides--and the sides alone--that grip the driven pulley and deliver the power to it.

That is why you have always noticed that the sidewall of the ordinary V-Belt is the part that wears out first.

## ---and Now See How the

# CONCAVE SIDE

**(A GATES PATENT)**



## ✔ REDUCES Sidewall WEAR

### Greatly Lengthening Belt Life!

Clearly, since the sidewall is the part that wears out first, anything that prolongs the life of the sidewall will lengthen the life of the belt.

The simple diagrams on the right show exactly why the ordinary, straight-sided V-Belt gets excessive wear along the middle of the sides. They show also why the Patented Concave Side greatly reduces sidewall wear in Gates Vulco Ropes. That is the simple reason why your Gates Vulco Ropes are giving you so much longer service than any straight-sided V-Belts can possibly give.

## ✔MORE Important NOW Than ever Before!

Now that Gates Specialized Research has resulted in V-Belts having much stronger tension members -- tension members of Rayon Cords and Flexible Steel Cables, among others--the sidewall of the belt is often called upon to transmit to the pulley much heavier loads. Naturally, with heavier loading on the sidewall the life-prolonging Concave Side is more important today than ever before!

**THE GATES RUBBER COMPANY, DENVER, U. S. A.**
*World's Largest Makers of V-Belts*

Straight Sided V-Belt

FIG. 1

How Straight Sided V-Belt Bulges When Bending Around Its Pulley

FIG. 1-A

**You can actually feel the bulging of a straight-sided V-Belt by holding the sides between your finger and thumb and then bending the belt. Naturally, this bulging produces excessive wear along the middle of the sidewall as indicated by arrows.**

Gates V-Belt with Patented Concave Sidewall

FIG. 2

Showing How Concave Side of Gates V-Belt Straightens to Make Perfect Fit in Sheave Groove When Belt Is Bending Over Pulley

FIG. 2-A

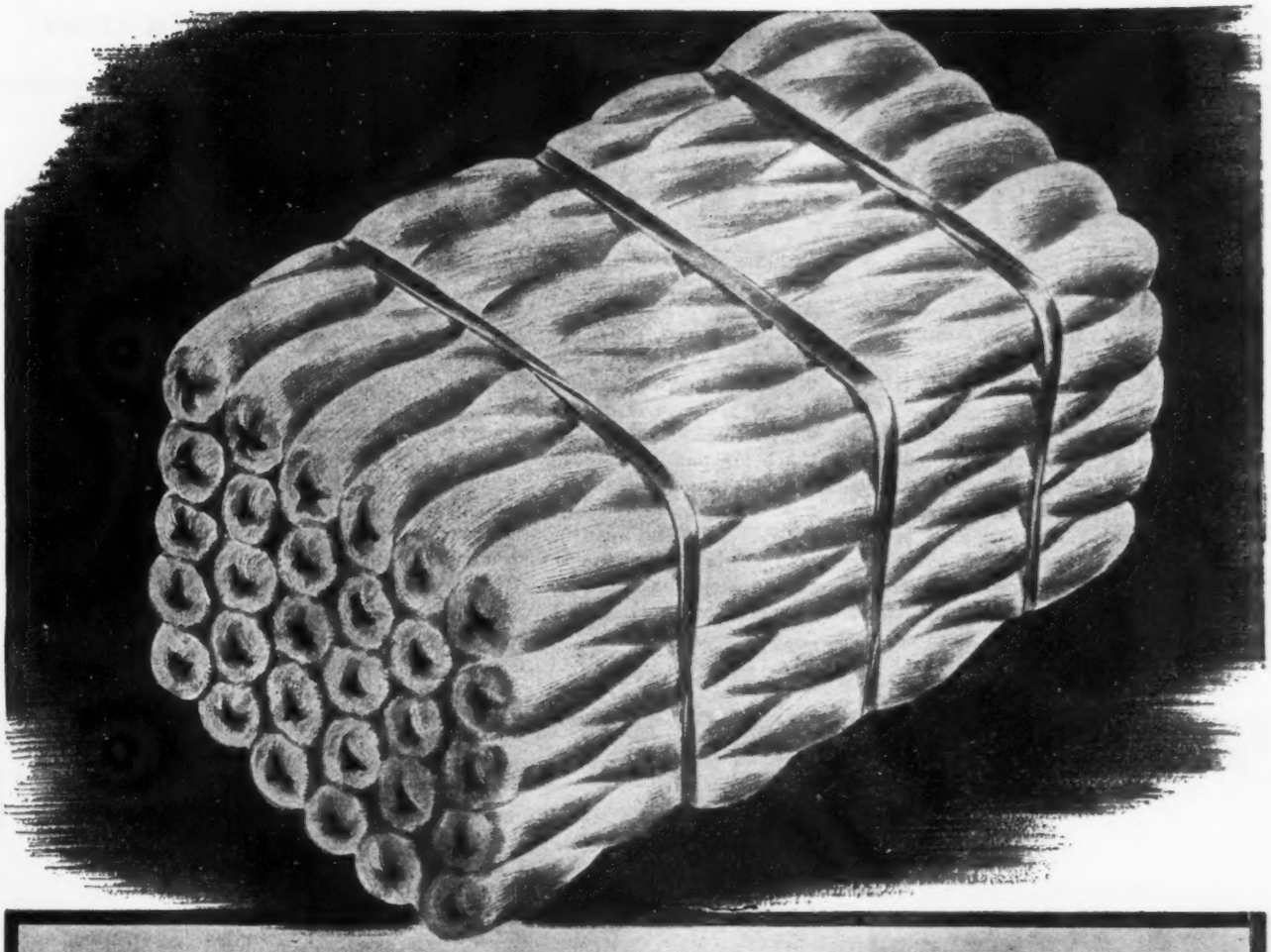
**No Bulging against the sides of the sheave groove means that sidewall wear is evenly distributed over the full width of the sidewall—and that means much longer life for the belt!**

472

**GATES VULCO ROPE DRIVES**

Engineering Offices and Jobber Stocks **IN ALL INDUSTRIAL CENTERS** of the U. S. and 71 Foreign Countries

Gates



# BACK ON THE "BOOKS"!

*The leading pre-war silk soaking oil for Hosiery Tram*

# NOPCO* DIRECT No. 1 (1854-X)

The matchless ability of Nopco Direct No. 1 (1854-X) again provides the best of lubrication for tram, as well as the clear, regular stitch that identifies hosiery of top quality. That's why it was the largest selling pre-war silk soaking oil for hosiery tram. That's why it is the favorite soaking oil of leading Throwsters and Knitters.

## How Nopco Direct No. 1 (1854-X) Helps Improve Hosiery Tram

**MAXIMUM LUBRICATION.** Nopco Direct No. 1 contains an exclusive additive, which insures complete lubricity for every filament.

**CONTROLLED SOLUBILITY.** Nopco Direct No. 1 permeates the sericin or gum thoroughly and softens it uniformly. Result—yarn exceptionally well conditioned for more effective throwing, coning and knitting.

**GREATER YARN PLIANCY.** The thorough external and internal gum-softening action of Nopco Direct No. 1 leads to the following product benefits . . . better loop formation in knitting, insuring a clear, even stitch. Yarn of this type produces a stocking with less roll on the machine—and in the final phase, easier looping and seaming.

NOPCO EVOLVED THROUGH RESEARCH

*Reg. U. S. Pat. Off.

**GREATER ECONOMY.** Nopco Direct No. 1—combined with recommended alkalies—is almost 100% exhausted from the soaking bath and into the soaked yarn.

To get a more complete picture of how Nopco Direct No. 1 (1854-X) can help bring peak quality to your silk yarn, write for interesting, informative booklet.

**NATIONAL OIL PRODUCTS COMPANY, Harrison, N. J.**

Branches: Boston • Chicago • Cedartown, Ga. • Richmond, Calif.

**NOPCO DIRECT No. 1**
**SILK SOAKING OIL**

ONLY THE "B-LINE" HAS THE RIGHT SOCKET SCREW FOR

# Which One Is Strong Enough?

The BRISTOL "Hex" socket screw is as much different from the ordinary hex as it is from its running mate in the Bristol "B-Line" — the BRISTO "Multiple-Spline" screw.

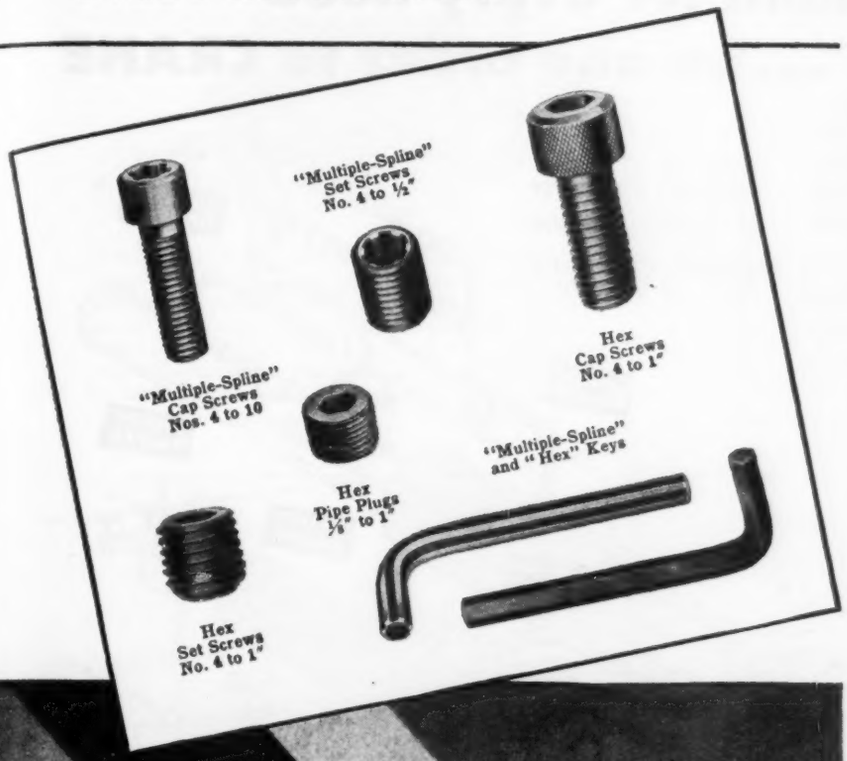
Both the Hex and Multiple-Spline socket screws represent careful, correct design by Bristol engineers who possess an extensive backlog of experience in the production of specialized socket screws for all types of applications. Bristol's system of raw material control keeps quality up to rigid standards.

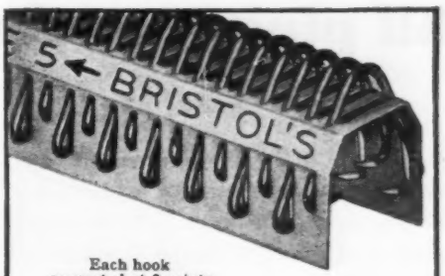
And Bristol's inspection methods, which include tests for hardness and ultimate strength, gauging for precision of lead and pitch — plus a final visual inspection before packing — result in Hex and Multiple-Spline screws that feature maximum strength...uniformity...accuracy.

BRISTOL "Hex" cap and set screws are made in a complete size range down to and including No. 4 wire. In the smaller sizes, the BRISTO "Multiple-Spline" socket screw is often preferred, especially where vibration or frequent disassembly is a factor. The unique shape of socket and key permits tightening far beyond the point where a hex socket would round out or burst.

For top strength in socket screws, select the right style from the Bristol "B-Line" — made by a manufacturer with 33 years' experience in socket screws. Order from your distributor.

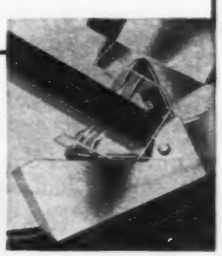
EVERY APPLICATION


"Multiple-Spline" Set Screws No. 4 to ½"
"Multiple-Spline" Cap Screws Nos. 4 to 10
Hex Cap Screws No. 4 to 1"
Hex Pipe Plugs ⅛" to 1"
"Multiple-Spline" and "Hex" Keys
Hex Set Screws No. 4 to 1"




Each hook supported at 6 points — cannot flop out of line

## SEE HOW EASY IT IS TO FASTEN BELTS THIS NEW WAY— WITH BRISTOL'S "B-LINE" BELT HOOKS



**LINING**

Card lines up hooks with grooves in belt fastening machine

**REMOVING**

Hooks pierce belt, uniformly spaced to distribute pull evenly

**SPACING**

Card lifts off easily after fastening

*Order from your distributor*

## BRISTOL'S "B-LINE"

Transmission Belt Hooks

*FAST and TRUE*

ALSO CONVEYOR BELT LACINGS

STAGGERED POINTS PLATES and RIVETS

The BRISTOL Company
MILL SUPPLY DIVISION

125 Bristol Road, Waterbury 91, Conn.

# All piping equipment for every need ...on one order to CRANE

Yes, sir!... one order gets you everything for the job... good, dependable material down to the last item. But that's just one way the truly complete Crane line helps to simplify all your piping jobs.

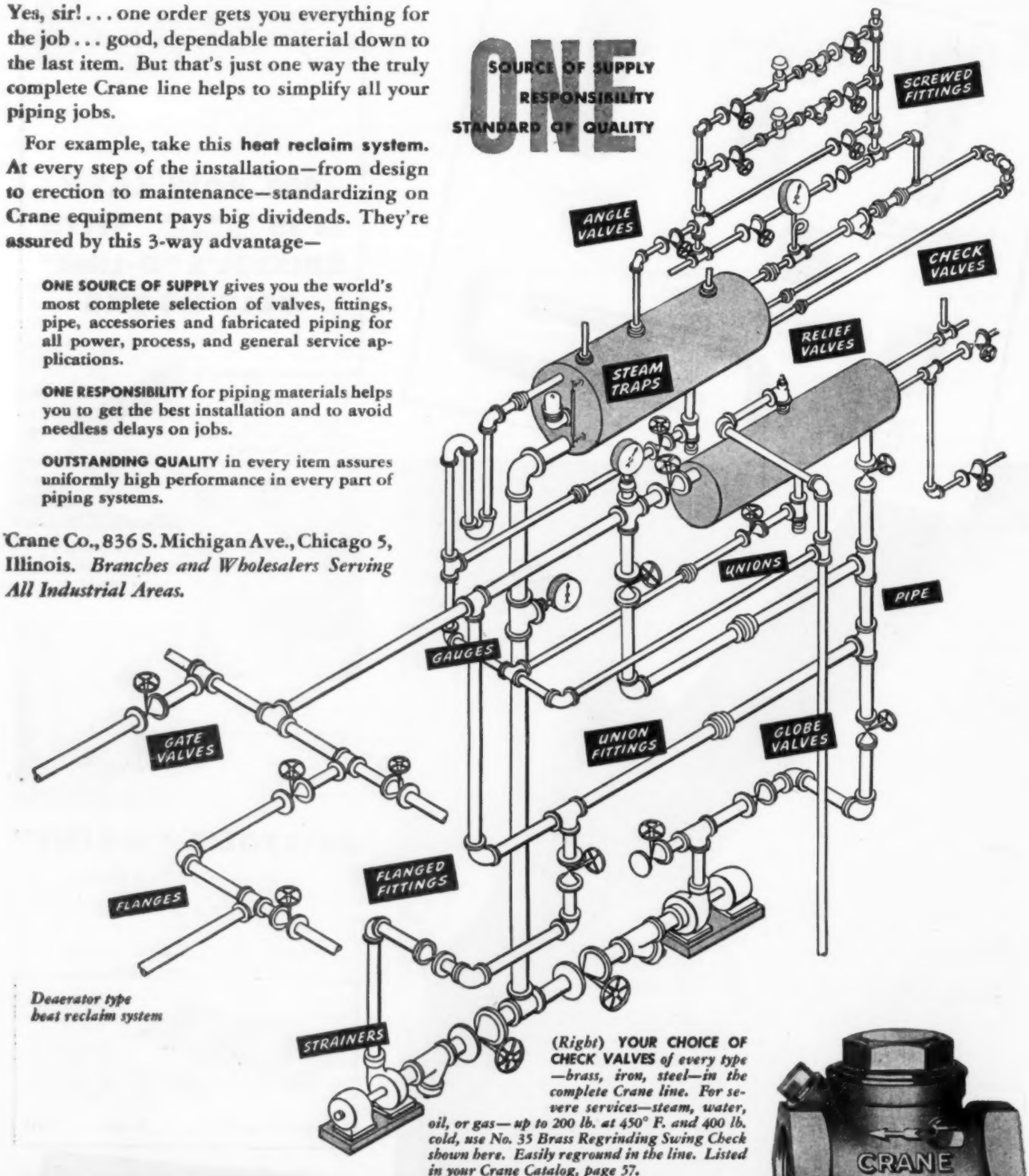
For example, take this **heat reclaim system.** At every step of the installation—from design to erection to maintenance—standardizing on Crane equipment pays big dividends. They're assured by this 3-way advantage—

**ONE SOURCE OF SUPPLY** gives you the world's most complete selection of valves, fittings, pipe, accessories and fabricated piping for all power, process, and general service applications.

**ONE RESPONSIBILITY** for piping materials helps you to get the best installation and to avoid needless delays on jobs.

**OUTSTANDING QUALITY** in every item assures uniformly high performance in every part of piping systems.

Crane Co., 836 S. Michigan Ave., Chicago 5, Illinois. *Branches and Wholesalers Serving All Industrial Areas.*




*Deaerator type heat reclaim system*

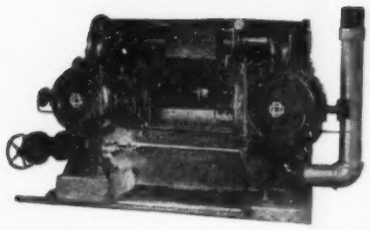
(*Right*) **YOUR CHOICE OF CHECK VALVES** *of every type—brass, iron, steel—in the complete Crane line. For severe services—steam, water, oil, or gas—up to 200 lb. at 450° F. and 400 lb. cold, use No. 35 Brass Regrinding Swing Check shown here. Easily reground in the line. Listed in your Crane Catalog, page 57.*

EVERYTHING FROM . . .

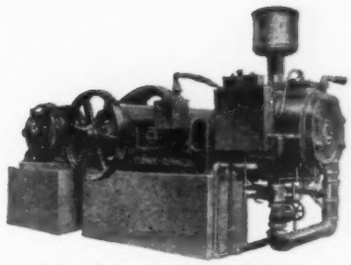
VALVES • FITTINGS
PIPE • PLUMBING
AND HEATING

# CRANE

FOR EVERY PIPING SYSTEM



The air cylinders in this Gardner-Denver "HA" Horizontal Compressor are especially designed for highest volumetric efficiency and lowest horsepower requirements. Its duoplate valves are cushioned for high delivery capacity, high compression efficiency and lowest power consumption. The class "HA" compressors are available in capacities from 316 to 2012 cubic feet displacement per minute.



Is dust a problem in your plant? This Gardner-Denver Class "RX" Horizontal Compressor is dustproof. And its special design permits complete water jacketing of all valves, air passages and cylinder heads to remove the heat of compression—increasing efficiency and cutting horsepower. The Class "RX" Horizontal Compressors are furnished in sizes from 89 to 1292 cubic feet displacement per minute.

## *shopping for* EXTRA *value?*

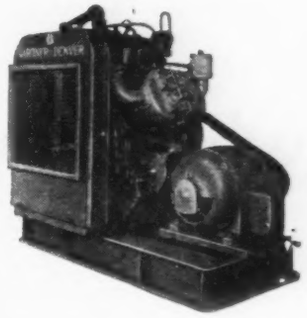
To get your money's worth in air compressors, centrifugal pumps or concrete breakers, look for the *special* features that help you do a better job at less cost. Every Gardner-Denver product on this page has such features—and we'll gladly give you complete information about any one of them. Write Gardner-Denver Company, Quincy, Illinois.

**GARDNER-DENVER**

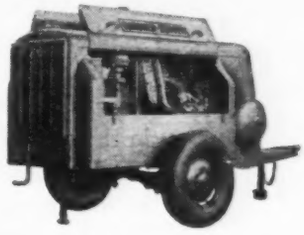
SINCE 1859

Atlanta, Ga.
Birmingham, Ala.
Boston, Mass.
Hazleton, Pa.
Knoxville, Tenn.
New York, N.Y.
Philadelphia, Pa.
Pittsburgh, Pa.
Washington, D.C.

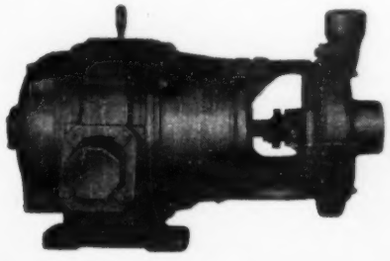
In this Class "WB" 2-stage Vertical Compressor, Gardner-Denver engineers departed from conventional air compressor design to give you more volumetric efficiency with greater capacity. "WB" Compressors—furnished in capacities from 142 to 445 cubic feet displacement per minute—have efficiencies comparable to those of large horizontal compressors.



Here's a modern portable air compressor that's mighty handy to have around the plant! Complete water jacketing of its cylinders means dependable operation under constant load—cooler air—lubricating oil economy. Gardner-Denver "Portables" are furnished in sizes to suit every need.



In this Gardner-Denver Close Coupled Centrifugal, see how pump and motor are combined to form a complete, compact unit. These pumps can be installed in any position and are designed for capacities up to 250 gallons per minute, and heads up to 250 feet.



Plant alterations go forward more quickly when your men use this new Gardner-Denver Paving Breaker. The B87 is easier to handle than conventional types—and has a special safety latch which prevents air throttle from being opened when it is moved from place to place. Easily convertible to a sheeting driver.

# the man who gave up fishing

It wasn't so much the fishing. Joe just liked to lie in the cool of a shady bank. He was more comfortable there on a hot day than sweating it out in the textile mill. That was before the mill installed Carrier air conditioning.

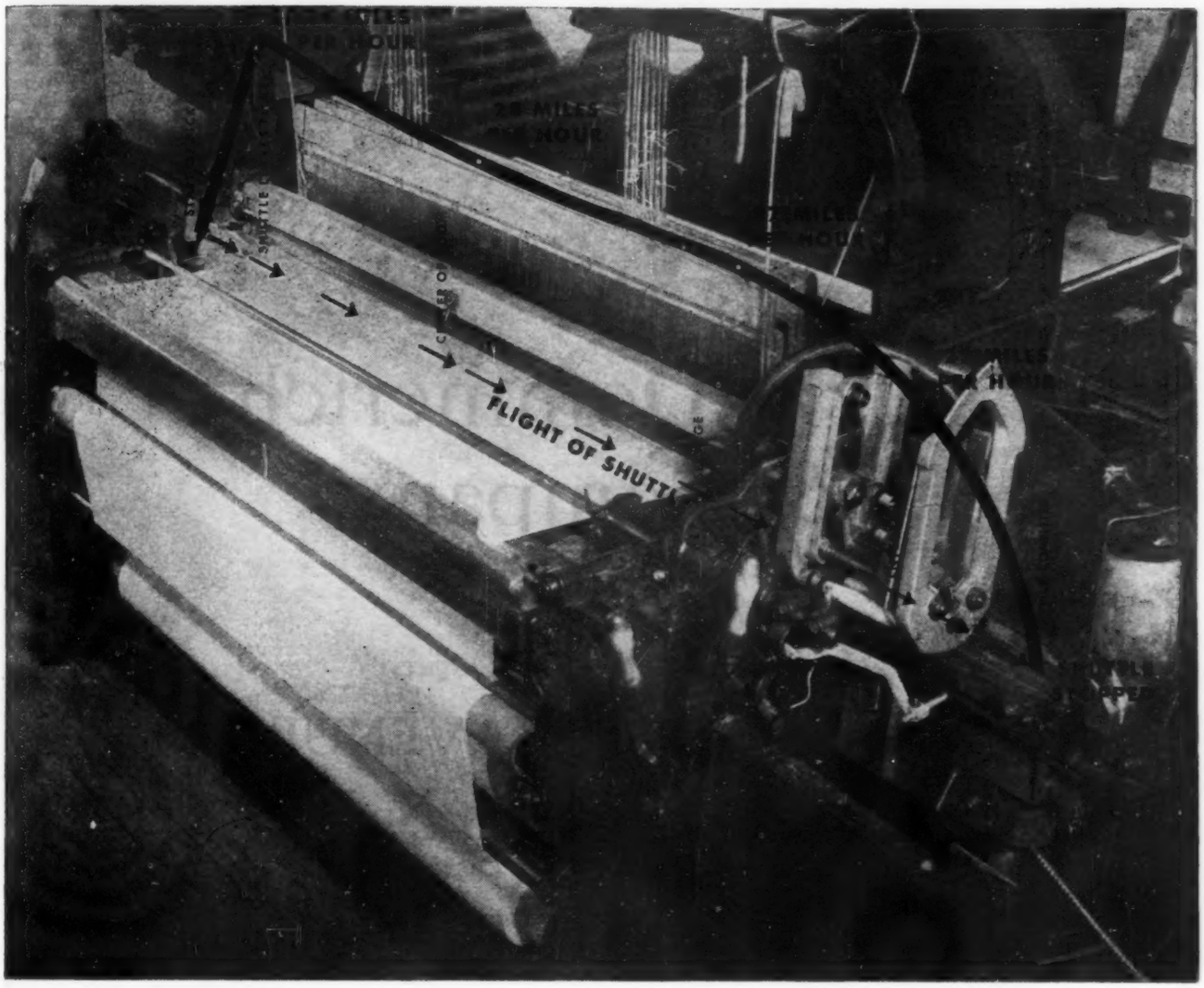
Now — like the other employees — Joe rarely misses a day's work, winter or summer. The "weather" is more refreshing inside the mill than out. He feels better and produces more. He's stopped thinking about leaving to find better working conditions.

Reduced employee turn-over and absenteeism are two important extra advantages that go with scientific, year-round Carrier air conditioning. Textile men already know how the close control of temperature and humidity smooths out mill operation. It helps prevent static and "fly," and makes it unnecessary to shut down machines frequently for adjustment.

Carrier's experience is unrivaled in the textile field. Its engineers have been working with textile men for 45 years . . . finding ways to boost output and improve quality. They're always glad to study any question of air conditioning installation. Why not call on them? There's no obligation. Carrier Corporation, Syracuse, New York.

Carrier

AIR CONDITIONING
REFRIGERATION
INDUSTRIAL HEATING




**Here's one answer to the question:**

# *"What's the Speed of a Loom Shuttle?"*

That curve, just above, tells a startling story. It shows the shuttle starting from rest at the left of a dobby loom—*and reaching a maximum velocity of 34 miles per hour in 1/30th of a second!* This acceleration, from rest to 34 miles per hour, is reached within a distance of 10 inches.

It also shows that, at 172 picks per minute, the shuttle completes its travel from box to box in a little less than 1/5 of a second. And in that time it decelerates sharply as it enters the selvage of the fabric—and again as it contacts the binder. Then the shuttle comes to a dead stop and the operation is almost instantly repeated in the opposite direction. So there's one illuminating answer to the question: "What's the speed of a shuttle?"

Now, to the next question: "How much faster can you make it go?", the answer is never exact or final.

*For C & K engineers have steadily increased shuttle-speeds.* And they are always working to move these speeds up, *and up,* with the single thought of making it possible for *you* to roll out more and more yardage, of higher and higher quality, in shorter and shorter time.

## Crompton & Knowles Loom Works

WORCESTER 1, MASSACHUSETTS, U. S. A.
PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA.
Crompton & Knowles Jacquard & Supply Co.
Pawtucket, R. I.

*between Today's Knowledge...*
*and Tomorrow's Looms*

# the man who gave up fishing

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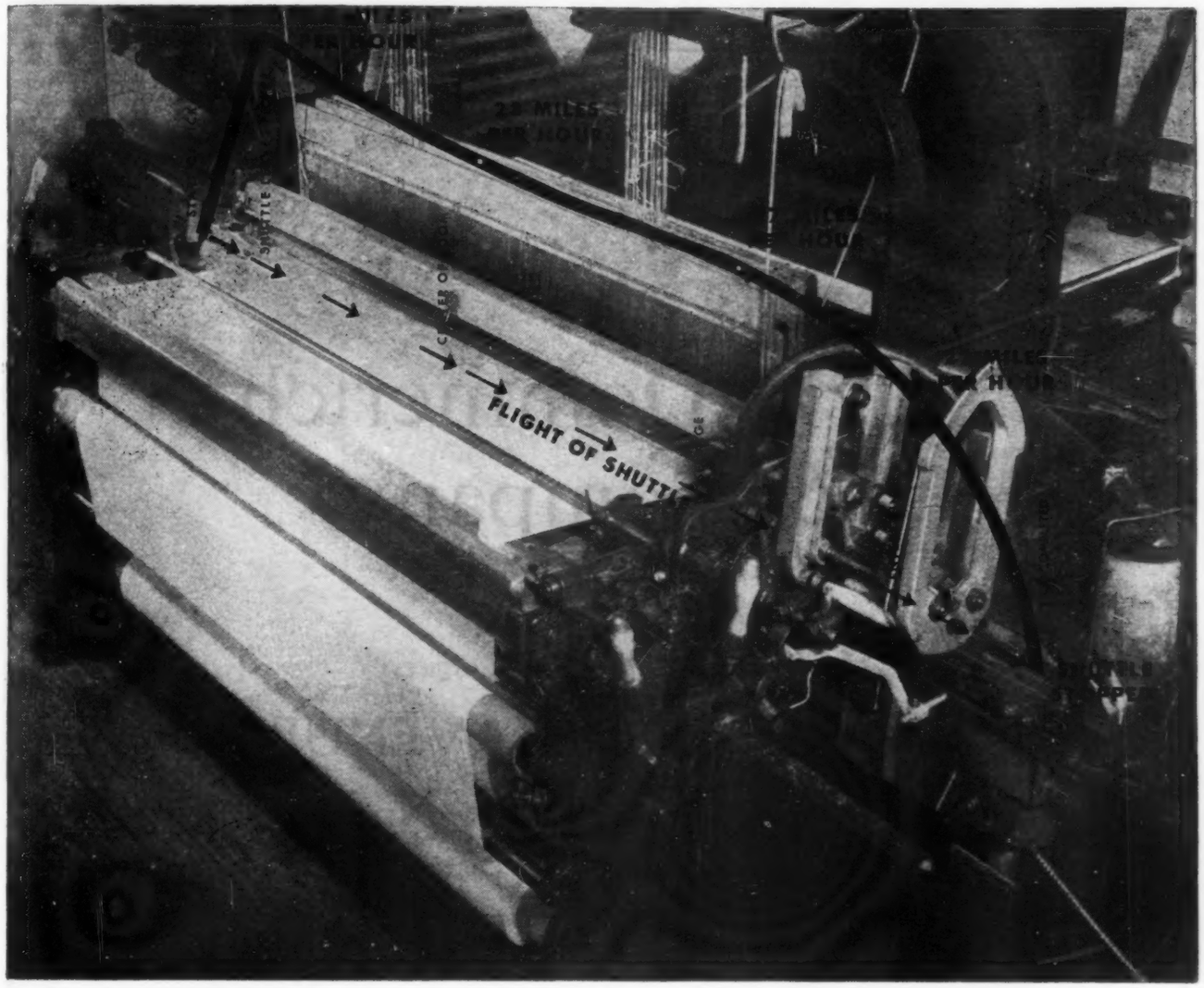
AIR CONDITIONING
REFRIGERATION
INDUSTRIAL HEATING

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*between Today's Knowledge...*
*and Tomorrow's Looms*

# L. F. Dommerich & Company

*Executive and General Offices*

271 MADISON AVENUE
NEW YORK 16, N. Y.

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For Manufacturers and Merchants

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●

ESTABLISHED 1840

# LOOK INTO THE "O" FILE FOR

# 2 Satisfying Answers

## TO YOUR TEXTILE PROCESSING PROBLEMS

***Soaps or synthetic cleaning agents? Which will be better suited to the type of materials you handle and to your particular operating conditions? Your own experience can best answer this question.***

***But whatever your preference may be, you'll get top performance from either Olate or Orvus in your wet finishing operations. And there's a good chance you'll find that both can be helpful in your mill.***

## Olate

A pure, neutral, low titer flake soap with a reputation of many years' standing as an efficient scouring and fulling agent.

Fast dissolving, fast rinsing.

Fluid solutions—wet out fibers quickly, evenly, thoroughly.

Excellent emulsifying and lubricating properties.

Gentle cleansing action.

Provides excellent protection against uneven shrinkage and non-uniform fulling . . . against harshness or stickiness.

Retains its efficiency at lower-than-average temperatures.

## ORVUS*

A gardinol-type product (sulfated fatty alcohol).

Fast, thorough wetting, emulsifying and scouring action.

Effective even in hard water. Helps guard against scum, streaks, specks and spots from hard water deposits.

Effective in presence of acids and alkalis.

Safe to fiber, fabric and color. Excellent results in scouring fugitive colors.

Promotes more uniform and thorough dyeing.

Helps prevent undesirable odor and yellowing of goods in storage.

O

Procter & Gamble

*ORVUS is a Procter & Gamble trade-mark.

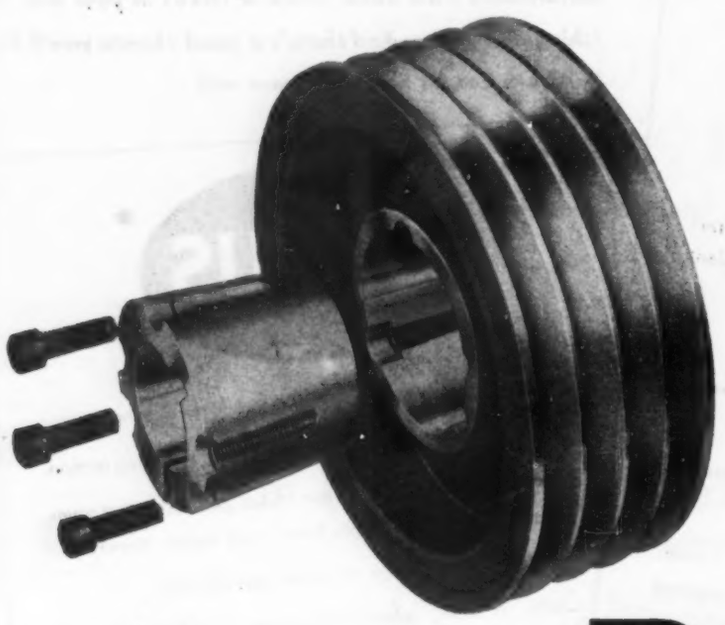
Complete unit.
Slip it on, line it up
and tighten while
sighting.

The simplest,
surest mechanism ever
devised for holding
wheels to shafts.

# TAPER-LOCK BRAND

## *A New Cost-Saving Taper Bore Sheave*

Holds fast to
the shaft with firmness
equivalent to a
shrunk-on fit.



Disengages
with less effort than
any other sheave.
Easy on. Easy off.

Complete
range of sizes in
Dual Duty (A and B);
B, C and D grooves.

**DODGE**

*of Mishawaka, Ind.*

For details about cost-saving developments in power transmission equipment, call the Transmissioneer—your local Dodge distributor. He's factory-trained, qualified to suggest ways to improve machine performance and increase production. Look for his name under "Power Transmission Equipment" in your classified telephone directory.

DODGE MANUFACTURING CORP., MISHAWAKA, INDIANA

Copyright, 1947, Dodge Mfg. Corp.

NAME PLATES

FOR YOUR NAME PLATE REQUIREMENTS, WRITE OUR SUBSIDIARY,
ETCHING COMPANY OF AMERICA, 1520 MONTANA STREET, CHICAGO 14, ILLINOIS

# HOW WOULD YOU PRINT THIS PATTERN ON ALL ACETATE NINON ?

Executives of the Colonial Print Works Division of Brewster Finishing Company knew there would be grave danger of cracking the fabric if they attempted to print this pattern with vat dyes in starch on acetate ninon. Therefore, they chose the far simpler, less hazardous method of pigment printing with low-crock Aridye* Pigment Colors.

Thousands of yards of this attractive pattern were printed in each of the four color combinations illustrated with no cracking or other damage to the delicate acetate ninon fabric, and with no impairment of the hand. Typical of the procedure followed by Colonial is that for the wine, rose, and grey color combination shown above. Formulas for that color combination are: WINE—2 parts Aridye Red 4325; 1 part Aridye Violet LV3R 4610; cut 1½: 1 with Aridye Clear 6214. ROSE—1 part Aridye Red 4325; 1 part Violet LV3R 4610; cut 1:9. DARK GREY—3½ parts Aridye Black FK 4214; 4½ parts Aridye Blue LC2R 4724; cut 1:6. LIGHT GREY—6½ parts Aridye Black FK 4214; 9½ parts Aridye Blue LC2R 4724; cut 1:45.

After printing, the fabric was merely dried and finished. Note the brilliancy of shades and sharpness of mark. Fastness to washing, drycleaning, sunlight, and crocking met or exceeded all requirements.

Because of results such as these, Colonial and other progressive printers are turning more and more to the use of Aridye Pigment Colors. An Interchemical technical representative may be able to help you solve your printing problems. Write to Interchemical Corporation, Textile Colors Division, Fair Lawn, New Jersey.

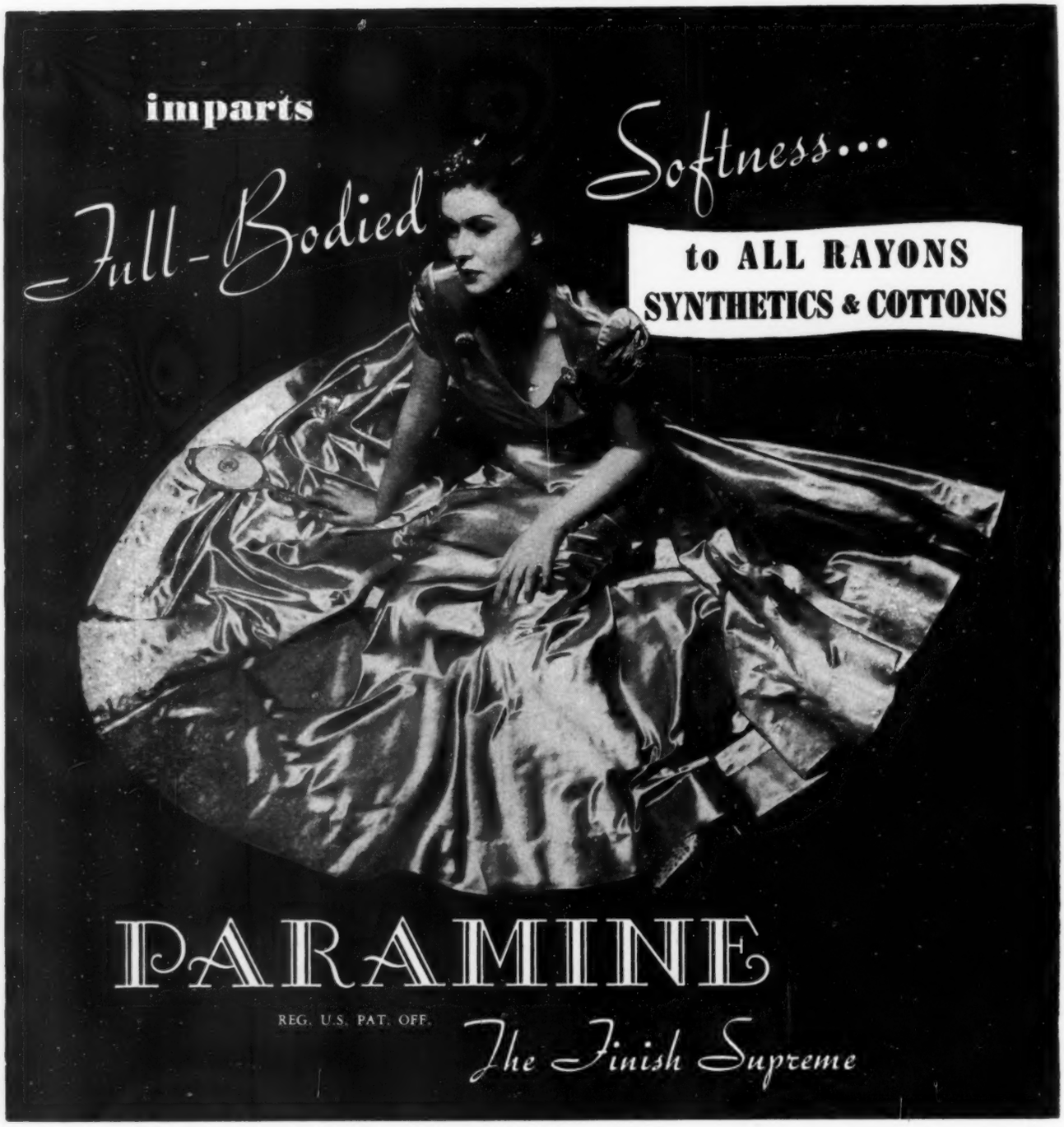
*Reg. U. S. Pat. Off.

**CHECK THESE EIGHT ADVANTAGES**

**Sharpness of Mark • Exceptional Fastness to Sunlight**
**Uniformity of Shade • Fastness to Washing**
**Bright Colors • Economy**
**Ease of Application • No Impairment of Hand**

**Aridye** *Pigment colors*

**INTERCHEMICAL CORPORATION • TEXTILE COLORS DIVISION, FAIR LAWN, N. J. • ROCK HILL, S. C. • PROVIDENCE, R. I.**




MILL MEN have found out about PARAMINE. . . . They know that to specify PARAMINE is to assure a highly desirable, wool-like texture for spun rayons, and an extra-mellow softness for all rayons, synthetics and cottons . . . and mill executives are pleased to find that PARAMINE gives this added sales value without increasing and often lowering finishing costs!

*Demonstration or further information furnished at your request. . . .*

**ARKANSAS CO., INC.**

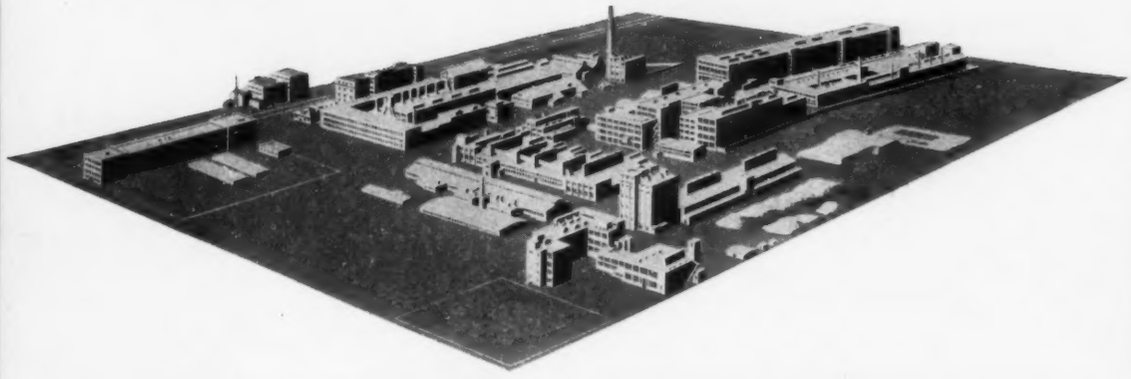
*Manufacturers of Industrial Chemicals for over 40 Years*

Newark, New Jersey

# A BUYING GUIDE FOR ABRASIVES

**POINT No. 1**

## MANUFACTURING RESOURCES



It is understandable to anyone in Production that better manufacturing resources generally lead to a superior product. Quality is not to be had for the mere wishing. The vast manufacturing facilities of The Carborundum Company are known to be an important part of the nation's industrial picture, and are pointed to as being in the forefront of manufacturing and technical progress. Not the least of the reasons for the satisfying, uniform, and dependable quality of Abrasives by CARBORUNDUM are the spacious, modern, alert and efficient manufacturing facilities which produce those abrasives. The Carborundum Company, Niagara Falls, N. Y.

**A Good Rule for Good Grinding...CALL IN**

# CARBORUNDUM

TRADE MARK

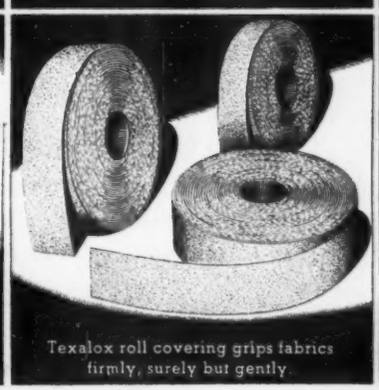
- BONDED ABRASIVES
- COATED ABRASIVES
- ABRASIVE GRAINS AND FINISHING COMPOUNDS

All standard shapes are supplied in grinding wheels by CARBORUNDUM.

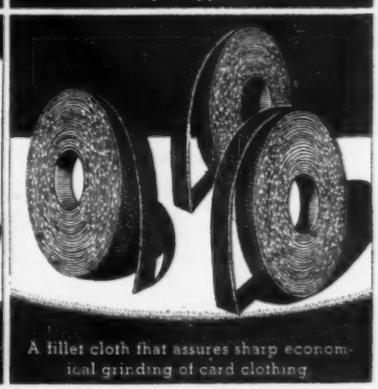
Sheets of Coated Abrasives for a variety of applications.

"Carborundum" is a registered trademark which indicates manufacture by The Carborundum Company.

Tool Room sticks and stones that cut fast...last long...and hold their form.



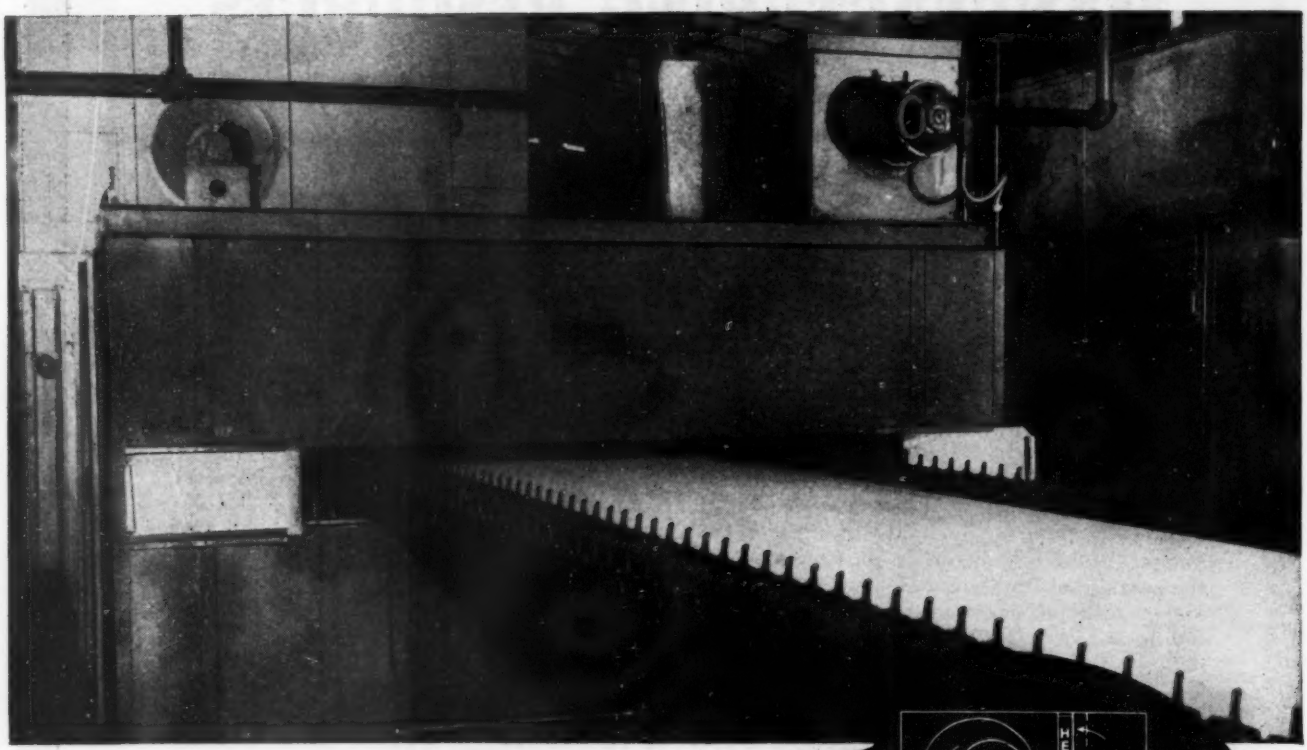
Texalox roll covering grips fabrics firmly, surely but gently.



A fillet cloth that assures sharp economical grinding of card clothing.

*Unique air circulation makes possible*

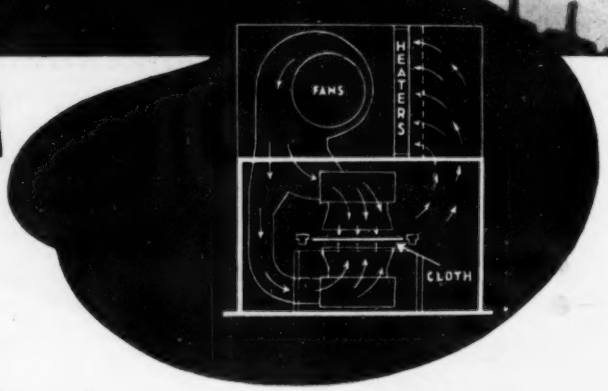
## HIGH SPEED DRYING



# PROCTOR *Super-Speed* SYSTEM

## APPLIED TO

## SINGLE RUN TENTERS




The factor which contributes most to the high speed operation that is possible with this modern system of tentering is *air circulation*. When a single run tenter is enclosed in a Proctor housing, air at high temperatures is impinged through nozzles against *both* sides of the fabric as it is carried through the drying chambers. Circulating through the goods, this penetration of uniformly heated air reduces drying time and increases output. The proper regulation of moisture in the air, so as to obtain speedy drying without harsh effects on the cloth, has an important bearing on the quality of the finished goods. Of course, output varies with individual plant requirements, length of the machine and the character and weight of the goods—but is always kept to a maximum by this system. Temperatures, air velocity and drying speed may be altered to suit a wide variety of fabrics and finishes. One of the most recent applications for this system has been in the drying of fabrics preparatory to curing. If the finishing of fabrics which must be held to width is part of your plant operation—investigate the decided advantages of the Proctor "Super-Speed" System applied to single run tenters.

**PROCTOR & SCHWARTZ INC. *P & S* PHILADELPHIA 20, PA.**

# Rayon Reports

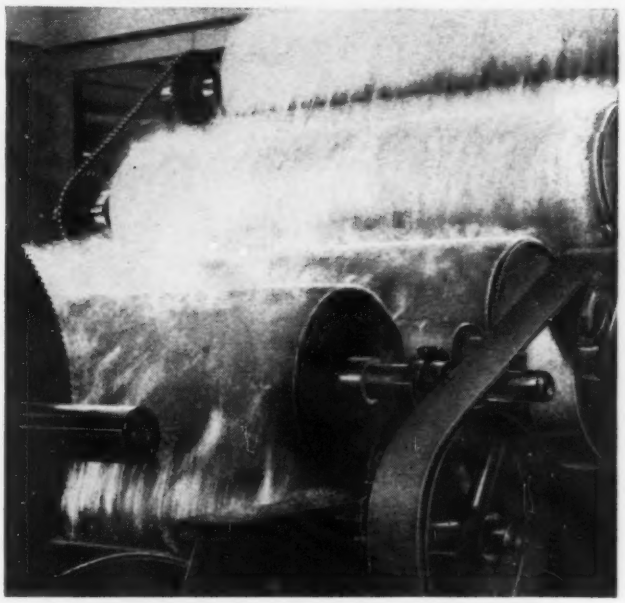
Prepared Monthly by American Viscose Corporation, New York, N. Y. FEBRUARY, 1947

## Benefits of Rayon Staple to Woolen and Worsted Industries Reviewed

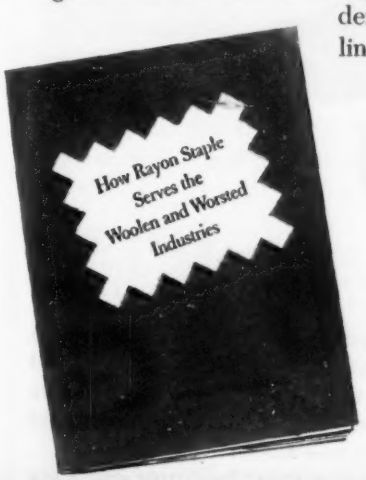
In a new booklet, "How Rayon Staple Serves the Woolen and Worsted Industries," the unique advantages that rayon staple brings to finished woolen and worsted blended fabrics are presented.

The booklet summarizes the economic advantages of rayon staple over rayon waste and garnets, then goes on to review several of the features of rayon staple that make it one of wool's best allies. Of major significance, the booklet points out, is the improvement of blends through the controlled characteristics of rayon staple.

The desirability of using rayon staple of varied lengths closely resembling the varied lengths of the specific wool to be blended is cited. The specific advantages that result from selecting rayon staple of specific deniers for blends are outlined, as is the correct usage of bright and dull luster fibers. The booklet also contains information on how to achieve new tones and effects through rayon's controlled color and dye affinity. In addition, it discusses other factors dealing with rayon staple's advantages in manufacturing economics. Copies of this interesting and comprehensive review are available without charge. Requests should be addressed to American Viscose Corporation, 350 Fifth Ave., New York 1, N. Y.



Shown above is one of the full-size textile machines installed in the Textile Research Department of the American Viscose Corporation. An important part of this department's work is the study of better techniques for blending wool with rayon staple, often in cooperation with woolen and worsted manufacturers.




### RAYON 20 YEARS AGO

New York manufacturers have turned to beautiful new fabrics of rayon and cotton to successfully reawaken a demand for housefrocks.

Rayon is to have a still wider use in men's underwear, if cable reports from Paris are correct. Men's fashion arbiters there have decreed that henceforth men's undergarments must be more decorative.

Instructions to laundry workers as to the kinds of rayon fabrics they will be called upon to handle, and the best way of so doing, is urged by the Laundryowner's National Association Fellowship of the Mellon Institute.

**MAKE USE OF 4-PLY SERVICE**

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

**1 FIBER RESEARCH**
**2 FABRIC DESIGN**
**3 FABRIC PRODUCTION**
**4 FABRIC FINISHING**

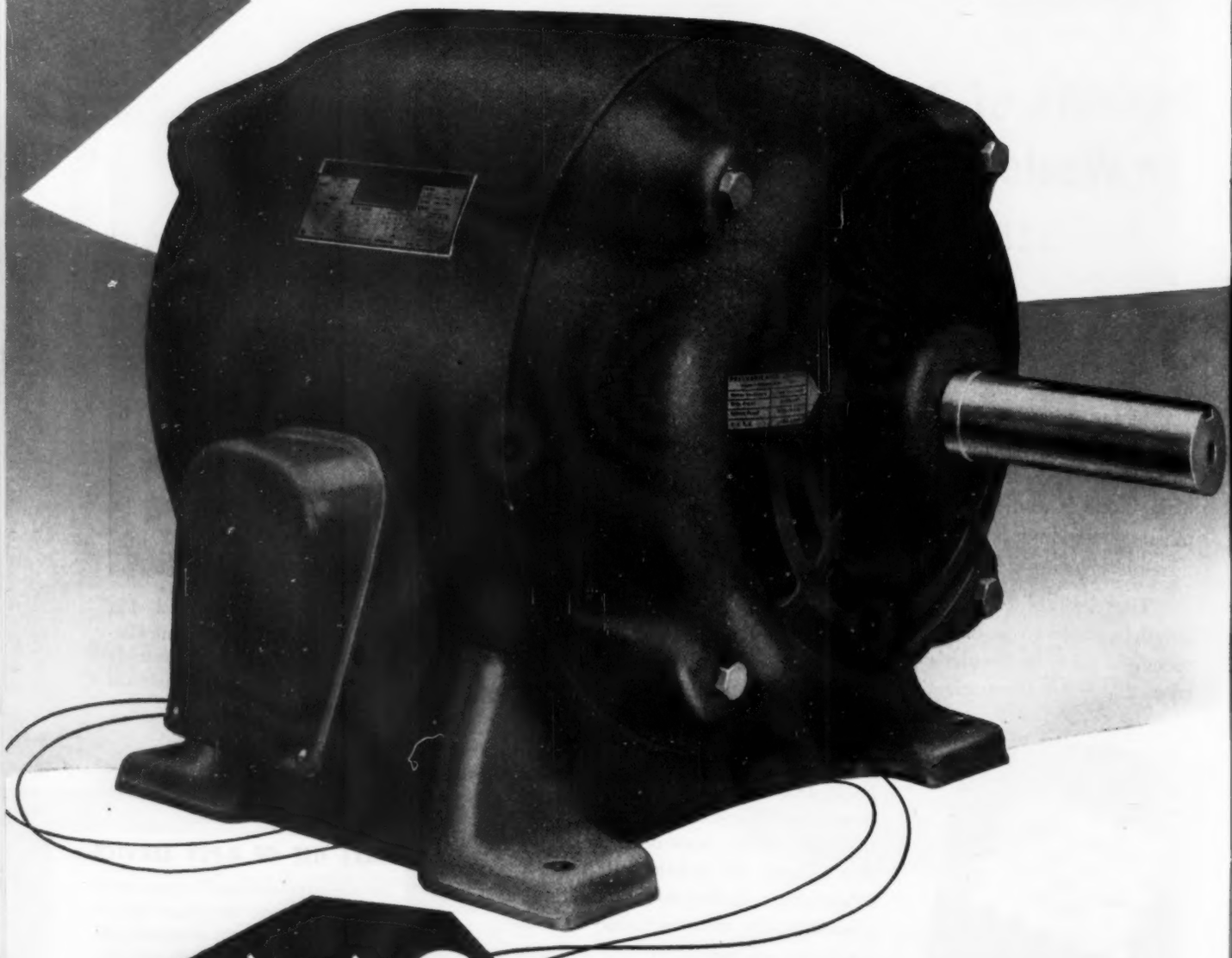
**AMERICAN VISCOSE CORPORATION**

*America's largest producer of rayon*

*Offices:* 350 Fifth Avenue, New York I, N.Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.; Washington, D. C.; Wilmington, Del.

*Plants at:* Marcus Hook, Pa.; Roanoke Va.; Lewistown, Pa.; Nitro, W. Va.; Parkersburg, W. Va.; Meadville, Pa.; Front Royal, Va.

# The most important advance in motor design in 58 YEARS...



Features and improvements demanded most by users ALL WRAPPED IN A SINGLE PACKAGE

When Westinghouse engineers began designing a postwar motor they abandoned the concept that all motors must be cousins. Instead, they asked electric motor users *what they wanted* in motors . . . features they couldn't buy in any one motor.

These features demanded most by motor users are *all* incorporated in the new Life-Line Motors:

**ALL-STEEL PROTECTION.** All frames, feet and brackets are HEAVY STEEL. Life-Line Motor stators are far stronger—a new core locking device eliminates rivets.

Westinghouse

PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

# the New WESTINGHOUSE Life-Line MOTOR

It's completely new . . . it's completely different . . . it wraps up the advances made in "custom-built" wartime motors in a single package!

For 58 years, induction motors have been built fundamentally alike. Differences have been minor . . . improvements gradual. Today, in the new Life-Line, Westinghouse presents a major departure from accepted ideas of standard-motor limitations.

Life-Line, today, offers industry a truly all-steel protected motor. All exposed surfaces are HEAVY STEEL—frames of even the smallest sizes are 3/8" thick.

More compact power is packed in Life-Line. For example, on the 284 frame, size has been reduced 35%, although NEMA mounting dimensions have been maintained . . . starting torques are as much as 134% greater per pound of motor . . . maximum torques as much as 116% more per pound.

Electrical characteristics have been improved . . . new materials and new winding techniques give increased protection against electrical failure. And sealed, pre-lubricated bearings do away with need for greasing or attention for at least five years!

The Life-Line Motor, as a result, represents the biggest single step forward in design and construction since the invention of the electric motor 58 years ago. Life-Line Motors are now reaching the drives of industry by the thousands, but are not yet available in quantities to meet the unprecedented demand. So, look over Life-Line advantages now with an eye to your future requirements. Your local Westinghouse office can give you full details, or write to Westinghouse Electric Corporation, P. O. Box 2025, Buffalo 5, N. Y.

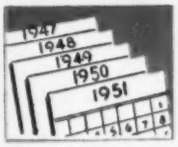
★ ★ ★

*Life-Line Motors are now in production at the new Westinghouse Motor Works in Buffalo, N. Y. This plant is laid out, tooled and equipped to fully utilize newly developed production processes and techniques on a scale hitherto unequalled in the manufacture of electrical motors.*

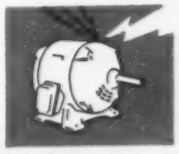
J-21406

**LESS SPACE PER HP.** Life-Line Motors occupy less space per horsepower than any other standard motor . . . making it easier to build into machines and install in cramped quarters.

**MORE TORQUE PER LB.** Life-Line Motors give as much as 134% higher starting torque per pound of motor . . . up to 116% higher maximum torque.




**NO LUBRICATION FOR 5 YEARS.** Life-Line Motors need no greasing for AT LEAST FIVE YEARS. Bearings are pre-lubricated . . . sealed against dirt and moisture.

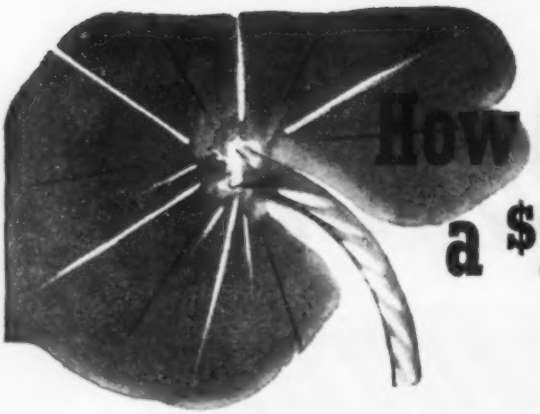


**IMPROVED WINDINGS.** New insulating materials . . . new coil winding techniques . . . new stator slot designs . . . give the Life-Line new record-setting protection against electrical failures.

**NEW QUIET SMOOTHNESS.** Life-Line Motors cut vibration and noise to new low limits for standard motors . . . satisfy many "special motor" requirements.

**NEW SLEEK LINES.** The Life-Line has sleek lines . . . a smooth finish . . . discourages dust and dirt accumulations . . . harmonizes with modern machine and tool design.

# Life-Line motors



# How to Pull the Fuse from a $20,000,000,000 Bomb

IMAGINE a super bomb whose explosion could rock the entire nation. Such a bomb EXISTS—*but you can help render it harmless.*

This bomb is $20,000,000,000 surplus national income.

Authorities estimate that this year's total income will be $155,000,000,000—personal taxes will total $15,000-000,000—consumer goods and services will absorb no more than $120,000,000,000. This leaves $20,000,000,000. Even if banks and insurance companies absorb one-fifth of the surplus (as they did in 1945), there will still remain $16,000,000,000 that could be used to bid up prices.

You're doing yourself, your company, and your country a favor by continuing your payroll deduction plan for the regular purchase of U. S. Savings Bonds. At maturity, they pay $4 for every $3 invested!

## THE PEACETIME PAYROLL SAVINGS PLAN—

**A booklet, published for key executives by the Treasury Department, containing helpful suggestions on the conduct of your payroll savings plan for U. S. Savings Bonds.**

## THIS TIME IT'S FOR YOU

**A booklet for employees . . . explaining graphically how the payroll savings plan works . . . goals to save for, and how to reach them with Savings Bonds.**

### *Are you using these booklets?*

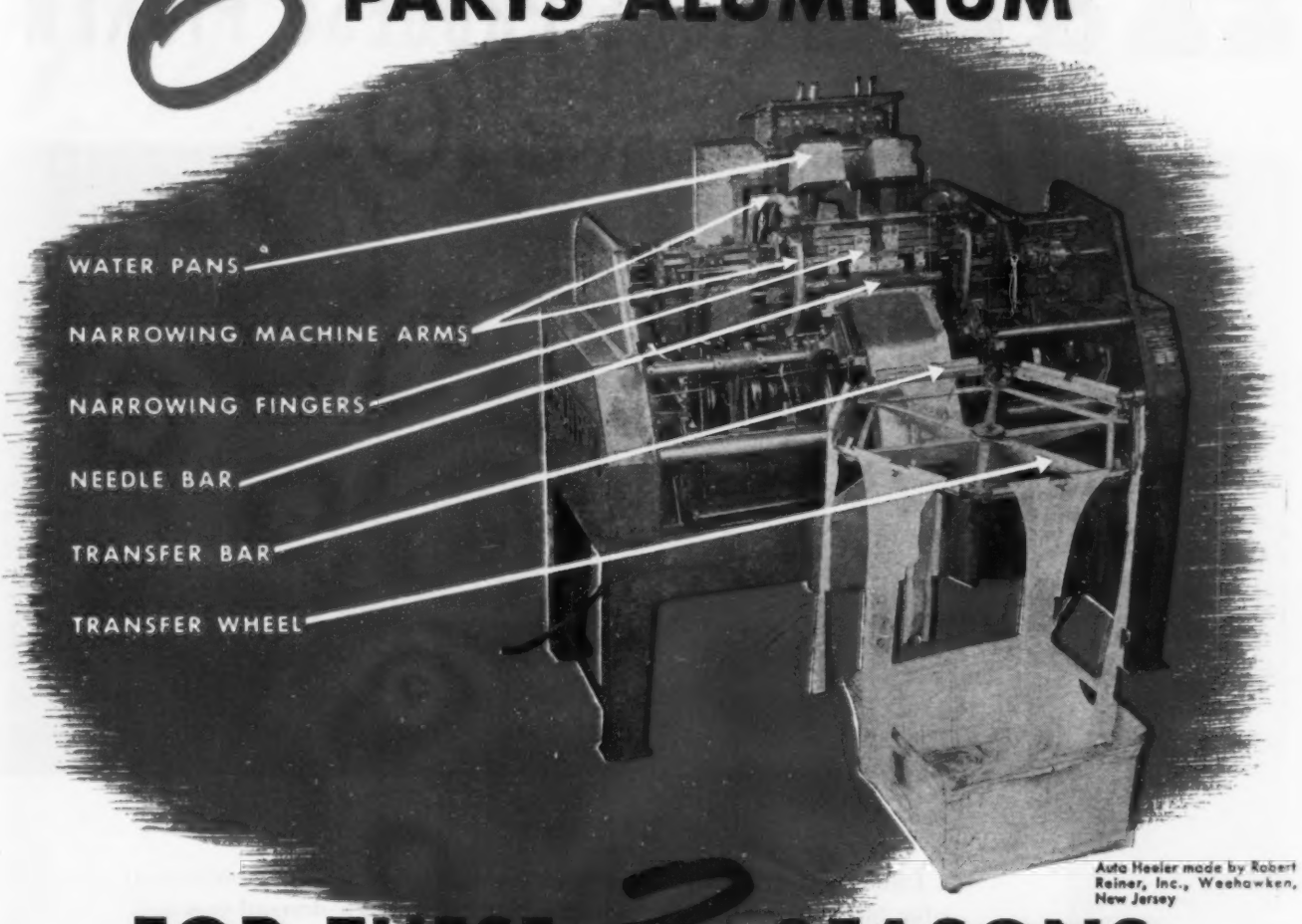
If not, or if you want additional copies, just ask your State Director of the Treasury Department Savings Bonds Division.

*The Treasury Department acknowledges with appreciation the publication of this message by*

# TEXTILE INDUSTRIES

*This is an official U. S. Treasury advertisement prepared under the auspices of the Treasury Department and the Advertising Council*

# 6 PARTS ALUMINUM




Auto Heeler made by Robert Reiner, Inc., Weehawken, New Jersey

# FOR THESE 3 REASONS:

***High Speed***—Lightweight Alcoa Aluminum in textile machinery parts means low inertia on reverse motions, fast stops and starts. Reduces vibration, a major cause for machinery going out of adjustment.

***Low Maintenance***—Because the high strength of Alcoa Aluminum can take the pounding of equipment running at high speeds, there is less fixing and replacing of parts, lower maintenance costs.

***Long Life***—Aluminum's high resistance to corrosion assures longer life and better appearance of textile machinery. Aluminum protects textiles against stains during manufacture, for condensate produces no rust to drop down and cause seconds.

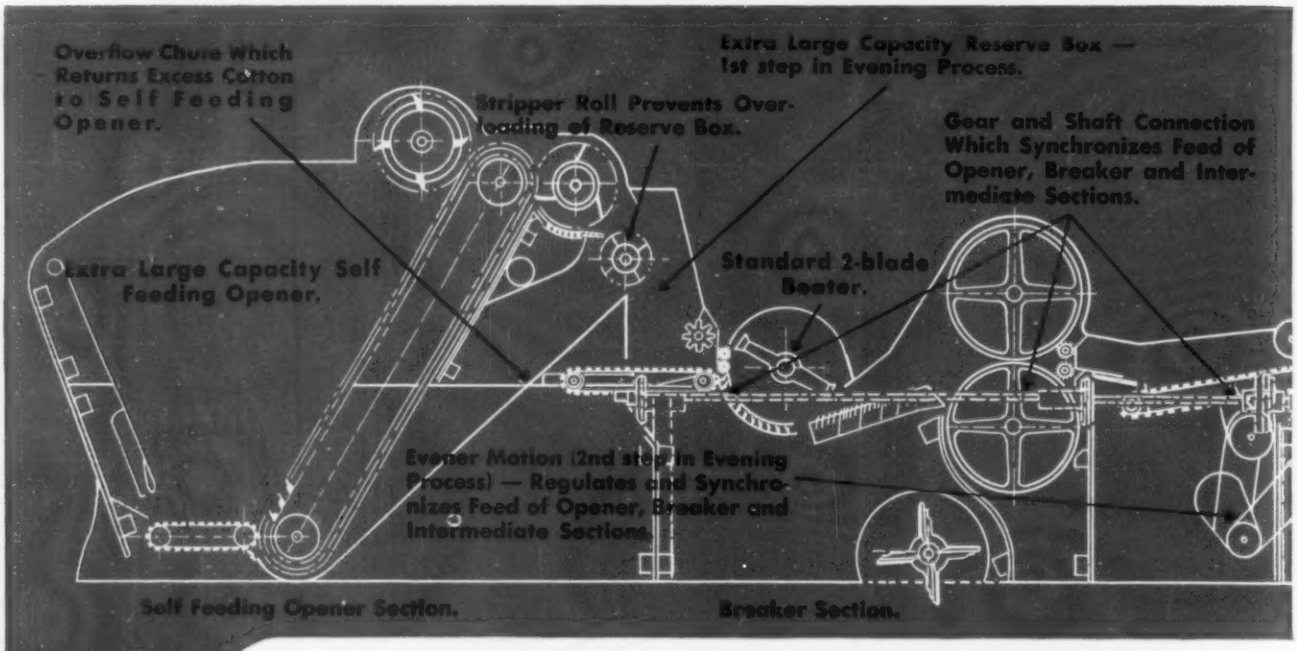
When you're buying new equipment, ask your supplier, "Is it made of Alcoa Aluminum?" If he says, "Yes"... then it's the best buy. ALUMINUM COMPANY OF AMERICA, 1939 Gulf Building, Pittsburgh 19, Penna.

*MORE people want MORE aluminum for MORE uses than ever*

**ALCOA** FIRST IN **ALUMINUM**

IN EVERY COMMERCIAL FORM

# H&B A-1 ONE PROCESS PICKER-


Overflow Chute Which Returns Excess Cotton to Self Feeding Opener.
Extra Large Capacity Reserve Box — 1st step in Evening Process.
Stripper Roll Prevents Overloading of Reserve Box.
Gear and Shaft Connection Which Synchronizes Feed of Opener, Breaker and Intermediate Sections.
Extra Large Capacity Self Feeding Opener.
Standard 2-blade Beater.
Evener Motion (2nd step in Evening Process) — Regulates and Synchronizes Feed of Opener, Breaker and Intermediate Sections.
Self Feeding Opener Section.
Breaker Section.

THE H & B A-1 One Process Picker has established an admirable record for picker room performance. Modern Mills which demand exacting lap tolerance consistently report top efficiency, with rejected laps running as few as 5 per 1,000.

This exceptional lap uniformity is due to an evening process which starts at the Reserve Box in the Opener Section and continues through the Breaker and Intermediate to the Finisher Section. At no point, once the lap is started, is the evener process interrupted.

Our patented Reserve Box (in the Opener Section), which acts as No. 1 evener, is shown in the above illustration. The volume of raw stock in this box is kept constant, thus providing a uniform supply of stock to the feed apron delivering to the Breaker Section.

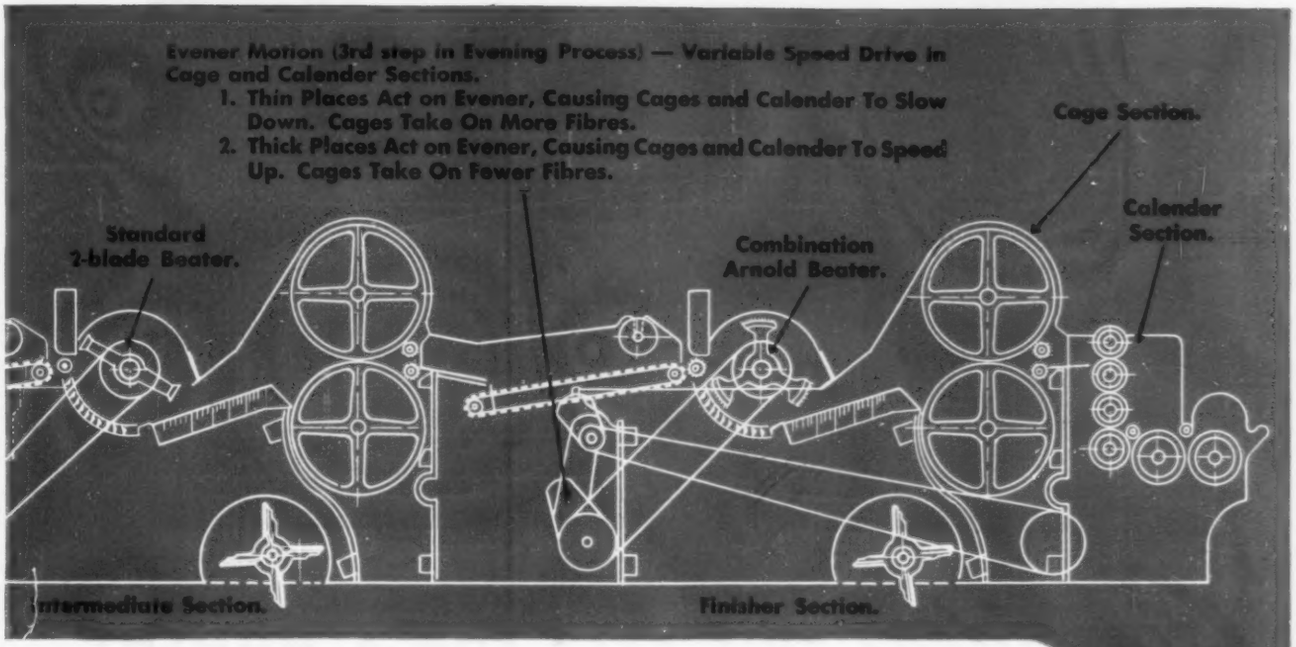
The evener motion in the Intermediate Section is also shown. Here a cone evener regulates and synchronizes the rate of feed of the Opener, Breaker and Intermediate Sections. The lap produced at the Intermediate Section is so nearly perfect that the final evener process in the Finisher Section is greatly simplified.

**H&B AMERICAN**

*Builders of Modern*

FACTORY, EXECUTIVE OFFICES AND EXPORT

# 99% OF LAPS PRODUCED PERFECT


Evener Motion (3rd step in Evening Process) — Variable Speed Drive in Cage and Calender Sections.
1. Thin Places Act on Evener, Causing Cages and Calender To Slow Down. Cages Take On More Fibres.
2. Thick Places Act on Evener, Causing Cages and Calender To Speed Up. Cages Take On Fewer Fibres.
Cage Section.
Calender Section.
Standard 2-blade Beater.
Combination Arnold Beater.
Intermediate Section.
Finisher Section.

The final evener motion in the Finisher Section, where our patented variable speed calender and cage drive is used, is also shown above, with an explanation of how it operates.

### 3 BEATING OPERATIONS

The H & B A-1 One Process Picker uses 3 beaters to achieve a more thorough opening and cleaning of the fibres. Gentle handling of the fibres is insured by proper beater settings and proper beater speeds so as to deliver the proper number of blows per inch. Even the most delicate rayon fibres can be safely processed in this way.

The Combination Arnold Beater, manufactured exclusively by H & B, ordinarily used in the Finisher Section, combines the positive effectiveness of a blade beater and the gentle carding action of a Kirchner beater.*

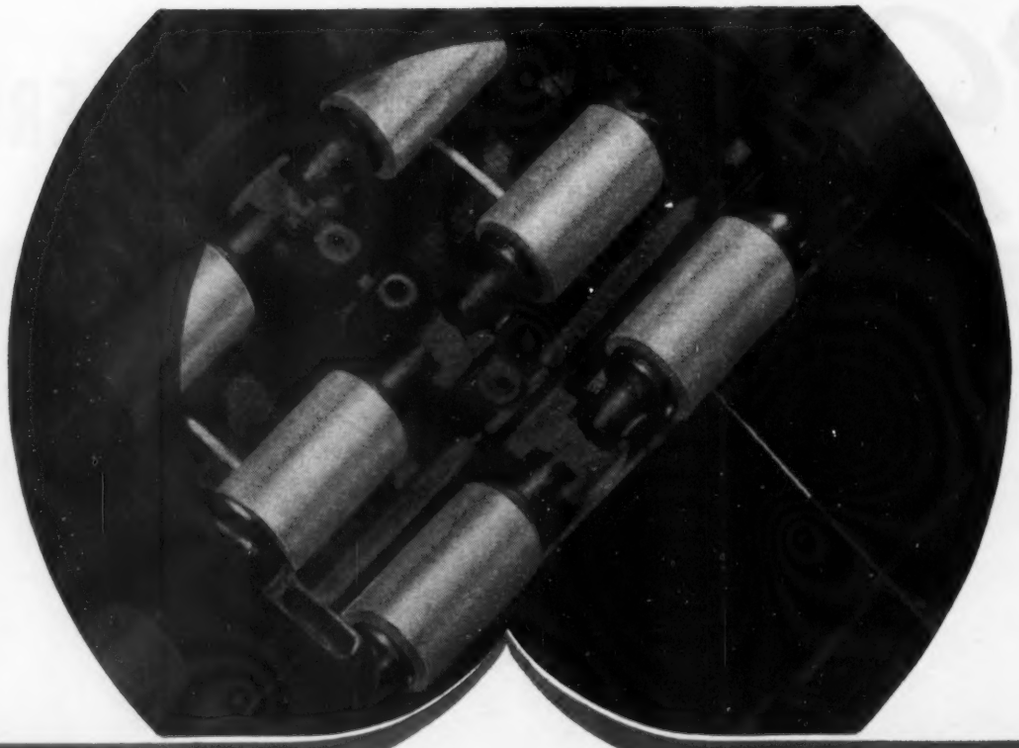
*Any combination of beaters adequate for the processing of any raw stock can be supplied.

**MACHINE CO.**

*Textile Machinery*

DIVISION — PAWTUCKET, RHODE ISLAND, U.S.A.

BRANCH OFFICES
ATLANTA, GA.
813 CITIZENS AND SOUTHERN NATIONAL BANK BUILDING
CHARLOTTE, N. C.
1201 JOHNSTON BUILDING



# *Consider* THIS FACT FOR A MOMENT...

**HERE ARE IMPORTANT REASONS WHY YOU SHOULD USE DAYCOS**

1. Large reduction of ends down.
2. More foreign elements removed from yarn.
3. Specially compounded for uniform wear, lengthening service life.
4. Equally effective for special types of synthetic and synthetic blends of yarn.
5. Decreases flying lint in spinning room.
6. Not affected by temperature changes.
7. Oil resisting and static free.
8. No grooving—less ends down.
9. Easy to apply.

## Daycos are Specially Engineered to Give Maximum Results on All Types of Frames

Whether your frames are equipped with flat clearers or revolving clearers, there is a specially engineered Dayco Roll Covering designed to give you greater uniformity of yarn and increased production.

Dayco Roll Coverings do this because they have ideal cushion, exactly the right coefficient of friction and are unaffected by humidity changes or temperature extremes throughout an exceedingly long life. Their surface is so tough that it never grooves, hollows out, flattens or distorts. Since Daycos are static free, lapping up is practically unknown.

Daycos lower your costs, too, because accurate accounting records have proved that the cost-per-hour of operation with Dayco Roll Coverings is definitely less.

Check the nine advantages listed at the left which you get with Dayco Roll Coverings. Then let us prove these specially engineered cots can help you raise both your quality standards and your production curve. Write today for complete information.

**THE DAYTON RUBBER MANUFACTURING COMPANY**
**DAYTON 1, OHIO • MAIN SALES OFFICE: GREENVILLE, S. C.**

# Dayton Rubber

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

## Textile Progress

On top of all the things you read about, there's a lot of work going on in the "back rooms" of textile suppliers. Sometimes it looks slow and the "wonder loom" or the plastic gadget that you keep hearing about may never come to life. Just now, we're hearing that the new loom actually does weave cloth, but that isn't too great an innovation.

Also, we're hearing of ring travelers of nylon; pickers of nylon (Danielson Mfg. Co.); two new plastic bobbins (what became of that idea of resin impregnation for bobbins); single-unit spinning, and yarn from cards in one step. (Next thing you know they'll eliminate the cards and just conjure up yarn out of the air with a magic wand.)

At Medley Mfg. Co., Columbus, Ga., we saw a trained engineer using an experimental drawing frame making sliver on 64s wool top with 15.32% variation. (Mixed staple ⅝ to 7½ inches) on four rolls with additional carrier roll and total draft of 7.2. This wasn't the final answer, we guess, as the work continued after we left.

Every time we get down-hearted about textile progress, we just take a look around and see the hours and money that is going into developing new machinery and supplies. Lots of it goes for naught, but that's what it takes to make the products you finally see advertised and offered for sale in our pages.

◆

## Handling Dirts and Dusts

"We are interested in obtaining the names of some of the outstanding engineering and manufacturing concerns who have had some experience on the problem of conveying dirts and dusts by air and controlling the handling of these dusts by air and controlling the handling of these dusts at the point of doffing or unloading. . . ."

WM. H. JONES
V. P. Railway Supply Mfg. Co.
Cincinnati, Ohio

◆

## Elastic Attaching Machine

"Please forward to us full information regarding elastic attaching machine. . . ."

MARTIN MELTZER
Chicago, Illinois

◆

## Roll Pickers

"We were very much interested in the article which appeared in the December issue. . . . Would you give us the name and address of the people making the electrical roll pickers. . . ."

MYRON C. FISH
American Supply Co.
Providence, R. I.

◆

## Poem for February

This issue's a dandy
So I am told.
The story it tells
Never grows old.

Machinery and supplies
To make plants whizz,
And plans for upkeep—
The best there is.

Write us about
Any article or ad.
We're glad to know
Our pages are read.

(J. C. C. suggested that this month's poem may sound too professional. Opinions: It's just as lousy as the rest of them.)

"Do you know of an electric driven roll picker that could be used where we do not have compressed air? . . ."

H. P. BARNARD
Dunlap Tire & Rubber Co.
Utica, New York

◆

## Straightening Full-Fashioned Needles

Reprints of the September article on needle-straightening offered at 25 cents each brought quantity orders from a lot of good mills including Oscar Nebel Hosiery Corp., Winchester, Va.; Wayne Knitting Mills, Ft. Wayne, Indiana; Bossong Hosiery Mills, Asheboro, N. C.; Jackson Hosiery Mill, Jackson, Mo.; Burlington Mills Corp., Greensboro, N. C.; Brownhill & Kramer, Inc., Coudersport, Pa.; Rodgers Hosiery Co.; Greensboro, N. C.; Real Silk Hosiery Mills, Inc., Indianapolis, Indiana.

That's getting around, and we still have a few left.

WHAT? NO PRIVACY?

*Photo Courtesy Dick Willingham, Atlanta, Georgia.*

## It's Hard to Give Things Away

Purchasing Departments give up hard. Following wire to mill purchasing agent ended six weeks effort to give away spun rayon series reprints to this mill:

RETEL. YOUR PURCHASING ORDER 45750 PASSED ALONG TO TENNESSEE EASTMAN CORPORATION AND YOUR PURCHASING AGENT ADVISED BY THIS OFFICE ON NOV. 4TH THAT THERE IS NO CHARGE FOR "PROCESSING PROCEDURES FOR SPUN RAYON YARNS." IT IS FURNISHED FREE BY TENNESSEE EASTMAN. EASTMAN ADVISED US NOV. 8 THAT ORDER HAS BEEN FILLED. YOUR LETTER NOV 15 REQUESTED PRICE APPLICABLE AND OUR LETTER NOV. 20 SENT YOU COPY OF OUR LETTER NOV. 4 STATING TENNESSEE EASTMAN HAD BEEN ADVISED AND THAT THERE IS NO CHARGE FOR BOOKLETS. YOUR LETTER NOV. 25 STILL ASKS FOR PRICE. YOUR TELEGRAM DEC. 9 WANTS THE SAME INFORMATION. THERE IS NO CHARGE. WE ARE GLAD TO COOPERATE WITH YOU IN GETTING BOOKLETS, AND REGRET THE FACT THAT THE BOOKLETS ARE FREE HAS CAUSED SO MUCH TROUBLE. REGARDS AND MERRY XMAS.

TEXTILE INDUSTRIES

◆

## Here We Go Again

"I am interested in securing information on the Sulzer weaving machine. . . ."

NAME WITHHELD

# SHORTS and REMNANTS

By J. C. C.

## Oiling System

"Old-Timer mentions in one of his articles an oiling system. I would, if possible, like to get a copy. . . ."

R. A. McCRANEY
Supt. Morgan Cotton Mills
Quitman, Georgia

(Sept. 1940. Sorry, no reprints).

◆

## Analyser, Lint Recoverer

"In your July issue . . . page 96 refers to Shirley Analyser. On page 120 the same article refers to modification of the card licker-in and a lint recoverer. . . . It would be appreciated if . . . we might obtain more information.

LUCIEN WILLIAMS
Graniteville Co.
Graniteville, S. C.

◆

## Vacuum Cleaners

". . . Although some progress has been made towards applying vacuum cleaning to textile plants, a great deal of development work has still yet to be done. . . ."

P. H. BURRUS, JR.
Gen. Mgr. Jackson Mills
Wellford, S. C.

◆

## Data on Bobbins

"Please advise if you have any books or literature you can sell us giving information on textile bobbins."

L. R. TILLERY
Ga.-Ala. Supply Co., Inc.
West Point, Georgia

◆

## Packaging and Wrapping

"In addition to the booklets requested on the enclosed slip, we are interested in information on automatic packaging and wrapping machines. . . ."

LLOYD K. WILLIAMS
Thomaston Mills
Thomaston, Ga.

◆

## Komet, Links, and Links

"In a recent issue, you offered a pamphlet, Second Edition, on Komet, Links and Links machines. If this is still available, will you please send six copies?"

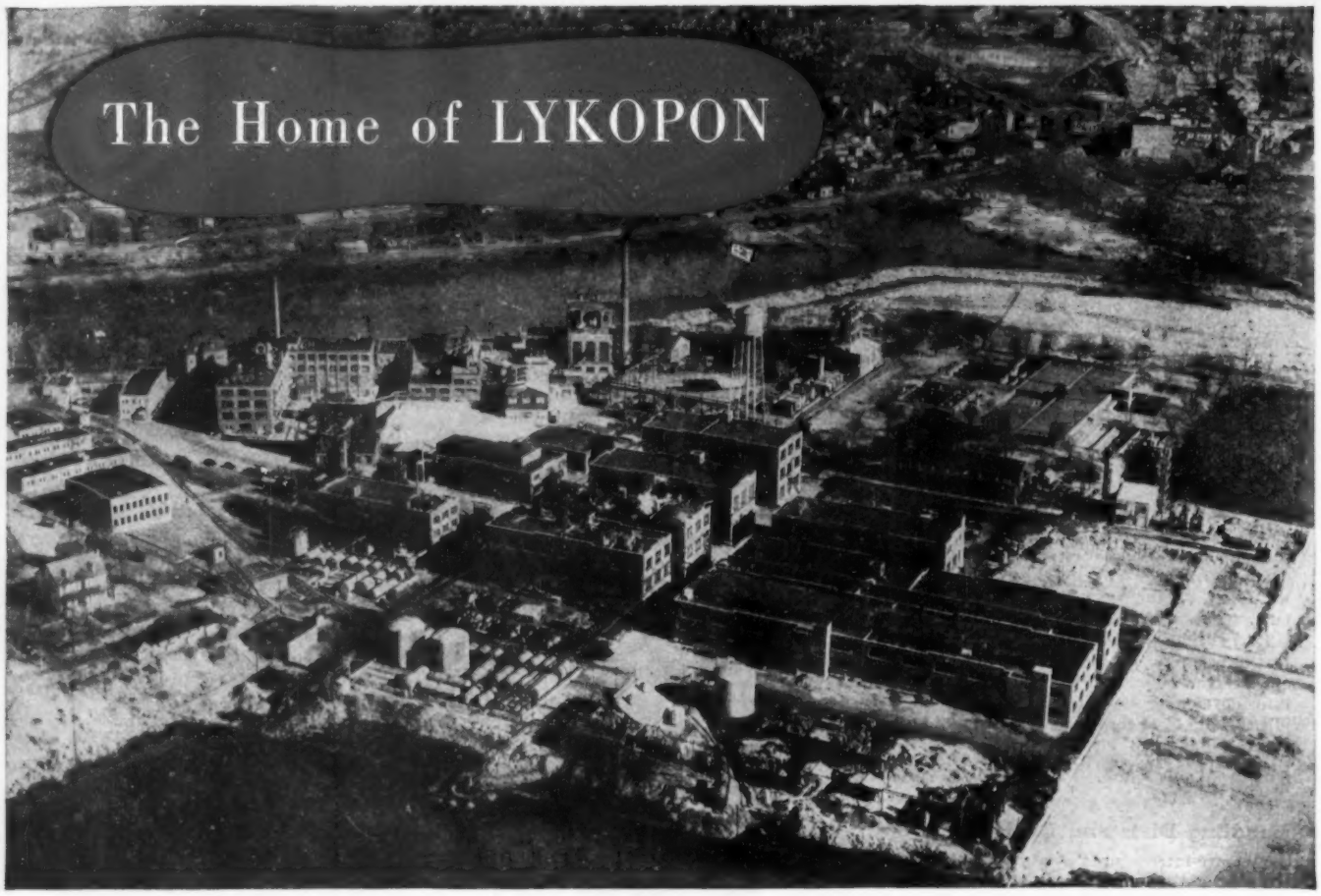
ROY JAEGER
Phoenix Hosiery Co.
Miwaukee, Wis.

◆

## They All Want U. S. Machinery

". . . We think that everybody that still has a building or a home is after agencies for machinery and various supplies for Greece from the U. S. We have more inquiries for machines and representation all over the world than we will be able to take care of in the lifetime of our company. . . ."

F. E. PAUL
Wildman Mfg. Co.
Norristown, Penna.




## . . . and other reliable textile chemicals

**THE SERVICE THAT BUILT OUR BUSINESS CAN HELP YOURS**

Our business has been built largely on the practical help we have been able to give our customers, right in their own plants, in adapting Rohm & Haas products to their needs.

Our representatives are men with technical training and practical experience in the use of industrial chemicals. Call in a member of our textile chemicals department when you need assistance in choos ing or using . . .

*Chemicals For Fine Textiles*

This is the Bristol, Pa. plant of the Rohm & Haas Company, where many of the long line of dependable textile chemicals are produced.

**LYKOPON . . .** — The first Sodium Hydrosulfite—and still the foremost.

**FORMOPON . . .** — Sodium Sulfoxylate Formaldehyde — the industry's standard for purity and performance.

**PROTOLIN . . .**
**PROTOLIN W . . .**
**FORMOPON EXTRA . . .** — Zinc Hydrosulfite and Zinc Sulfoxylates — dependable reducing agents for stripping every fiber.

**RHOZYME DX . . .**
**RHOZYME PF . . .** — Textile enzymes — stable powders for the uniform desizing of all fabrics.

**RHOPLEXES . . .** — Acrylic Resins in a complete range of modern finishes for quality textiles.

LYKOPON, FORMOPON, PROTOLIN, RHOZYME & RHOPLEX *are trade-marks, Reg. U. S. Pat. Off.*

Represented in Canada by Rohm & Haas Company of Canada, Ltd., Toronto; and in South America by Cia. Rohm y Haas, S. R. L., Carlos Pellegrini 331, Buenos Aires, Argentina, and agents in principal South American cities.

# ROHM & HAAS COMPANY

*WASHINGTON SQUARE, PHILADELPHIA 5, PA.*

Manufacturers of Chemicals for the Textile, Leather and other Industries . . . Plastics . . . Synthetic Insecticides . . . Fungicides . . . Enzymes

Textile Industries

FEBRUARY
1947

# The "Portal-to-Portal" Racket

IF ANY FURTHER proof were needed of the unscrupulous nature of most of our leading labor racket moguls, this has been amply afforded during the past few weeks by the drive to collect more than four billion dollars under claims on the "portal-to-portal" flimflam instituted during the war to give the coal miners a raise in pay without calling it a raise.

A newspaper dispatch referring to one of these drives to collect three or four million dollars from an employer lists the following times for which the union claims the employee should be paid:

"Walking from nearest door to the time clock, walking from clock to place to work, walking from clothes rack or locker, changing clothes, waiting in line to punch clock, walking to job, putting on apron or overalls, removing shirt, taping or greasing arms, putting on finger cots, preparing equipment for producing work, opening windows, etc."

It would seem that honest people would be ashamed to enter claims of this sort, and at least a few labor union leaders have refused to join the demand of international officers to file a portal-to-portal back pay suit. In the case of Indianapolis Local No. 1001, CIO-United Electric, Radio and Machine Workers, only one vote was cast by the local's two thousand members for filing a million dollar suit against their employer. A spokesman for this union local said the workers felt (1) such a suit would be unfair to the employer, (2) they do not journey long distances from the plant "portal," (3) the workers want to negotiate only for what they consider fair and equitable.

Thus a labor union spokesman makes an honest appraisal of the whole racket, and the two thousand men who voted not to participate in any such skullduggery deserve a rousing cheer from other honest citizens.

This portal-to-portal pay originally was one of those subterfuges so dear to the hearts of politicians who wish to make it appear that they are not doing what they are doing. During the war the coal miners were threatening a strike which would have shut down the whole United States' war effort. At that time we were supposed to have "wage stabilization" under the so-called Little Steel Formula. It was perfectly evident that if the coal miners were given a pay increase, every other powerful union in the United States would demand a similar increase, and the Little Steel Formula would instantly go up in smoke. Means therefore had to be found to placate the coal miners by giving them more money, which could, by some verbal jugglery, be classed as something besides a raise in pay. The answer was the "portal-to-portal" pay, in which people were to be paid merely for going to work.

**Portal-to-portal pay originally was one of those subterfuges so dear to the hearts of politicians who wish to make it appear that they are not doing what they are doing.**

According to newspaper reports at the time, this question of portal-to-portal pay had arisen many years before in the councils of the United Mine Workers and had been overwhelmingly rejected. The reasons for the rejection were very simple, and quite logical. The employees of one mine might get two dollars a day merely for going to work, while the employees of another mine might get practically nothing if the portal-to-portal pay were allowed on an honest and equitable basis of the actual time required to go from the mine portal to the coal seam which was being mined. Such an arrangement would naturally arouse jealousy on the part of those miners who got less than their more fortunate brethren who would be paid handsome overtime for merely riding on a mine car.

Furthermore, this portal-to-portal racket would have been harmful to the union itself, because in a highly competitive industry like coal mining, a company which had to pay two dollars a day more to its miners than a competing company might soon be forced out of business and the miners' union would immediately lose the dues of the men out of work. There is nothing more painful to a labor union hierarchy than losing dues. They can bear great suffering vicariously while their members are out on strike, but they can not bear the thought of losing dues. Apparently, the portal-to-portal scheme met with no favor from the miners or the big shots in the union.

In this emergency, when the coal miners were insisting that the conduct of the war was a small matter in comparison with more

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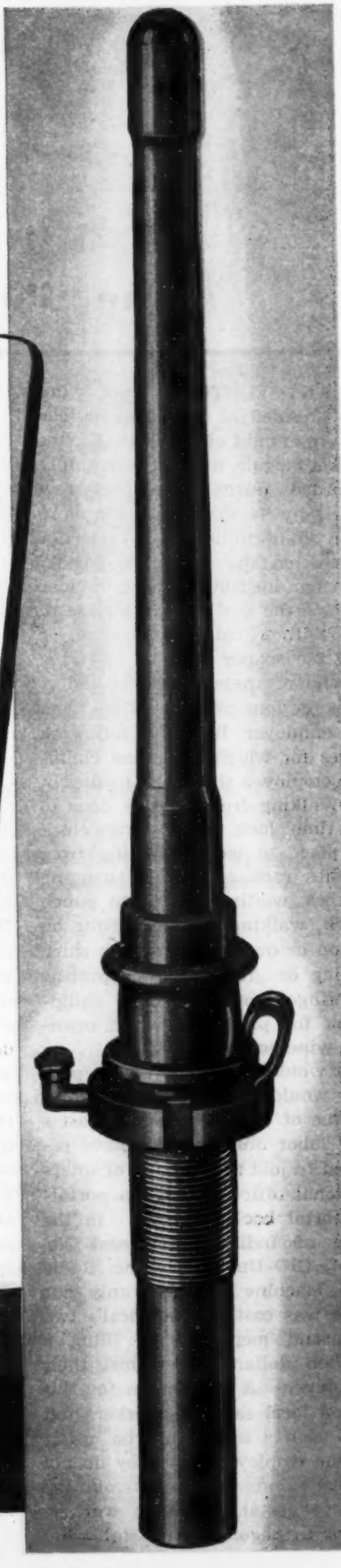

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CLEVELAND 10, OHIO

SUBSIDIARY OF CURTISS-WRIGHT CORPORATION

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Southern Representative: Byrd Miller, Woodside Bldg., Greenville, S. C.

money for themselves, and when the Administration was struggling frantically to preserve the Little Steel Formula in name, if not in spirit, this portal-to-portal plan was suggested as a means of giving the miners about two dollars a day more money "without increasing their wages."

This was not the first time that such a slippery compromise had been made with reality. Millions of other workmen had been given increases that weren't increases, by reclassification; by lengthening the work week; by paying dishonest production bonuses; and other equally tricky schemes. The production bonus was one of the commonest of these. Under this scheme, there were firms which paid their help more in bonuses than they did in wages. We recall one Chicago employer with extensive Navy contracts who stated that his wage scale for common labor was one dollar an hour, but that did not include getting any work done. In order to get any work done they had to pay a bonus amounting to more than a dollar an hour, so that every payday the employees got a bigger bonus check than the pay check amounted to. The portal-to-portal racket was just such an unsavory scheme for an increase in pay which technically would not be classified as an increase in "wages."

THIS MATTER of portal-to-portal pay is of peculiar interest to the cotton textile industry, which very largely owns the villages in which its employees live. If the courts finally hold that these portal-to-portal claims are valid, and Congress does not outlaw them, a lot of cotton mills are going to be in a perilous position. Any mill which owns its own village and where the workers come to the mill wholly on company property may find that they have to pay overtime from the moment an employee leaves his house in the morning until he gets back at night. There may even be claims entered for the time lost in dressing, or perhaps even in sleeping and eating. There seems to be no limit to the rapacity of those entering such claims, and certainly if the claims previously listed are accepted as valid, there is no limit to the frivolity of claims that might be entertained.

Any honest workman knows that it is no concern of his employer how he gets to work or how far he lives from the job that he does. It is furthermore no concern of his what kind of clothes the man wears or whether he washes his face and hands before and after going to work or not. The only time an employer gets paid for is the time the workman spends performing his job, and it would seem to almost any honest workman that the only time the employer should pay him for is productive time. The mere fact that several million workmen have filed claims to over four billion dollars in money on such trivial grounds as those listed is a sad commentary on the inherent dishonesty of the organizations to which these people belong. It is interesting to note that the Indianapolis local previously mentioned had been urged by its international officers to file such a claim, and it had been necessary to take a vote of the membership to resist this urging.

This whole portal-to-portal pay flimflam is peculiarly malodorous because it is perfectly obvious that any employer who had the foresight to put his time clocks within a few feet of the workman's regular post could have avoided most of the claims. All of the time spent getting to work, washing hands, changing clothes, spitting on hands, adjusting necktie, and similar activities would have therefore been spent before the workman punched the time clock, and by having enough time clocks there would have been no time spent in line waiting to check in. A good many prudent employers whose lawyers had carefully read these trick labor laws and the equally tricky court decisions supporting them prudently located the time clocks only a few feet from the places of employment of the workers. We have seen many manufacturing plants where it took only about 10 seconds for a man to be at his work after punching the clock. Presumably, it would be no concern of the employer what the employee did with his time before and after punching, although it is doubtful if any scruples would have restrained the labor barons from entering claims. Under such circumstances, even a rather biased court would probably have thrown out such claims.

It is to be hoped that the present Congress will immediately outlaw these irrational claims, which, though trivial enough in themselves, amount to such a staggering total in money. We see by the papers that several firms have already agreed to settlements with their employees in amounts running into the millions, and if the validity of these claims should be upheld a number of businesses may be forced out of existence. There have been reports of businesses which have suspended operations and other businesses which have been forced to borrow money to meet their payrolls after the labor union had attached substantial bank balances.

In the face of the present temper of Congress toward labor rackets, it is almost unbelievable that leaders of international unions would have permitted any such thoroughly dishonest activity as the filing of these claims involving more than four billion dollars to be paid to people for merely going to work, without actually doing anything. Certainly, the union activities in connection with this portal-to-portal racket should leave no doubt in the minds of our legislators about what can be expected from national labor organizations as currently operated, and it is to be hoped that Congress will immediately pass legislation putting an end to the whole portal-to-portal swindle.

It is too early at this time to get any clear impression of what the forthcoming labor laws may be, but some very salutary suggestions have been made, and we are trusting that ultimately we will have some laws which put labor unions on the same footing as the rest of us and make it rather difficult for the racketeers who have seized such extensive power in our unions to wield this power so injuriously and so nearly without restraint.

# Modernization and Maintenance

## Emphasis on Lubrication

FOR A NUMBER of years preceding the last war, this magazine has devoted the February issue to the theme of Modernization and Maintenance.

Without dealing in hypothesis and lecturing on what should be done by the industry, case histories in textile modernization and maintenance have been presented to indicate what is done, and what results may be expected by applying the same principles in other plants. So it is with this issue.

The parallel has been drawn that an issue with the theme of Modernization and Maintenance serves the same purpose for industry as the old fashioned all-day meeting with dinner on the ground revival. Those attending the revival knew well beforehand that they should "do good and refrain from evil," but they just felt they should go and hear it again.

Similarly, the industry is fully aware that modernization is essential and that maintenance is the lifeline of production, but in the maze of operations in day to day business, many of the fundamentals of maintenance are neglected. An occasional maintenance revival is helpful.

It is not difficult to determine quickly the actual value of adequate maintenance if the mill has one bottleneck operation and the machinery in that department fails. Perhaps that is an advantage the smaller mills have over the larger ones—it is easier to appreciate the value of each machine. Not long ago the picker in a small plant became inoperative because the section man had failed to perform his job of maintenance properly. The pickers in any mill are important, but in this case the stoppage of the picker meant stopping-off machinery throughout the plant. The mill president was unable to get quick delivery of a needed part through regular channels, so he personally drove all night by automobile, picked up the part, and drove back.

Sometimes it requires such an occasion to impress both operatives and management of the necessity for adequate maintenance.

Production men are accustomed to machine stoppages, and will be until the day perpetual motion becomes a reality; but perhaps it is too easy to become accustomed to machine stoppages. In a multi-machine department, such as a weave shed, it is only natural that less importance be attached to idle and slower looms, and that greater concern be expressed when a slasher is out of operation. Still, the idle or slower loom is costing the mill money.

The principle of maintenance is identical irrespective of the number of machines—and lubrication is a fundamental of maintenance.

BY READING the articles in this issue on maintenance, a close study is not required to note the emphasis that is placed on the proper lubrication of machinery. Even more important, in many of the cases described, is the fact that a definite, systematic, and adhered to schedule for lubrication is used, coupled with adequate follow-up. Many mills have made commendable progress in their lubrication methods and systems, but as the article on page 81 points out, proper lubrication procedure is still not practiced by the industry at large as a basic principle of maintenance.

Recently, in this magazine, there appeared a series of articles describing the preventive maintenance program developed and used by a large group of mills. To some readers this system may have appeared intricate and too elaborate, but the basic principle can be applied within smaller plants. Throughout the entire series, systematic lubrication was emphasized as the criterion of the preventive maintenance program. Readers may or may not have agreed with the author in his statement concerning lubrication; but the record of this mill group is impressive—and it is difficult to argue against success.

# Dividends from Planned Painting

**By S. W. QUISENBERRY**
**Manager Maintenance Sales**
**E. I. Du Pont de Nemours & Co., Inc.**

MAINTENANCE PAINTING has taken on a new meaning in many textile plants. Mill owners and executives today accept it as a new and vigorous force. More and more they realize that paint can affect the welfare of the people working in the mills. They realize that paint can do a lot more besides its primary function of protecting the surface on which it is applied.

There is nothing new about the use of color in textile plants. In the past, however, it was utilized without much system. Today, color can be used scientifically. This is because there has been much study and research on the subject. The whole question of color has been taken apart to see what makes it "tick." Years of experience in the application of paint in industry have been accumulated for the benefit of plant managers who care to utilize it.

### Color and Efficiency

In the old days color was used indiscriminately; but today the trend is in the other direction. The change occurred after the public in general came to realize that color can be used as an aid in improving production, increasing employee efficiency, and reducing accidents. It thus can make for better management-employee relationship. Today it is realized that color does a big job; that it gives plus value to the dollars spent for maintenance painting.

A good thing to keep in mind is that color cannot do everything. It does hold a certain amount of magic—if used properly, and in combination with good lighting facilities. It cannot be used haphazardly. It must be used with restraint, control, and direction. If given free rein in a factory, it might well lead to digressions which would defeat its objectives. Color has advantages, but improperly used, it can be a source of distraction to human eyes struggling to concentrate on something else. There is danger that the well meaning enthusiast may overdo things. Intelligent counsel is needed to develop a color program for any plant, if it is to be efficient and practical.

### Color Psychology

Among the things which color experts have learned through much research is that every color possesses certain psychological characteristics. These differ one from another—sometimes radically.

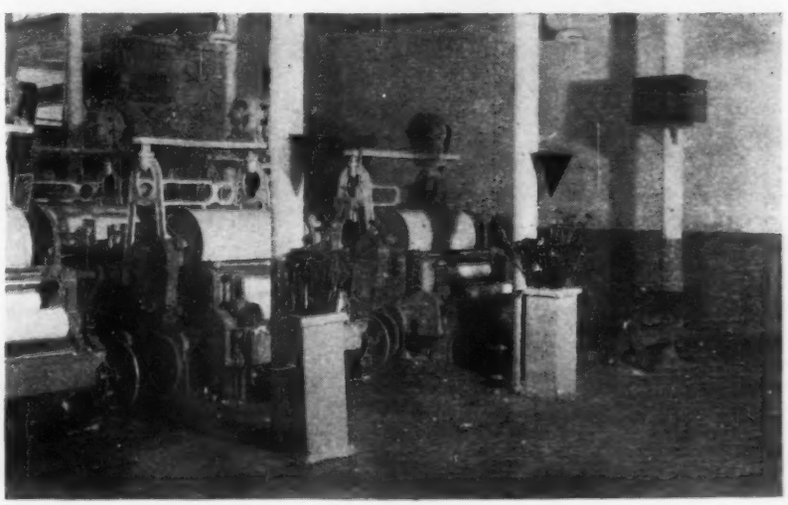
The basic principles of color engineering dictate that a color should be placed where it will achieve the desired psychological reaction, and that each color must possess the functional ability to perform the job assigned to it.

It is well known that color can prevent glare, and can provide a comfortable seeing environment. The fact that one color can be chosen to make a large room seem smaller, and another color to make a small room seem larger than it is, has been amply demonstrated. Color can also be used psychologically to condition a warm room to make it seem cooler or a cool room to make it seem warmer. It can correct irritating brightness contrasts which make for eye fatigue, and the resultant loss of efficiency.

### Safety Color Code

A Safety Color Code for Industry has been developed as a result of careful research on this subject. Leading safety engineers now realize that certain colors should be assigned the uniform role of standing for a given symbol. It establishes the association of a particular color with certain specific devices or conditions. For example, yellow, because of its high visibility, is the logical color to indicate strike-against, stumbling, falling,

**A color-conditioned picker room. Ceiling is white; side walls are gray-green; dado is medium green; pickers are medium green. Fire buckets are the usual red.**



or tripping hazards.

"Alert Orange" has been designated to mark parts of machines or equipment that might cut or crush a worker. Red, traditionally the color of fire departments, is reserved for fire protection equipment. Green is reserved for first aid equipment, dispensaries, and the location of safety devices.

Blue, in accordance with a century of tradition in railroad operations, is used to warn workers against use of equipment under repair, or machinery that should not be started. White, black, and gray are used as traffic colors—to mark aisles, storage places and waste receivers.

The experience of many plants which have adopted the safety code proves beyond question that it can reduce industrial accidents and also promote better housekeeping in the plant.

**Paint and the Investment Dollar**

The purpose of this article is to set down some considerations regarding the use of paint and color in textile mills. Although there is not sufficient space here to develop the subject fully, it is to be hoped that it can do its bit to show that one's paint dollar can go further and last longer than formerly, if it is wisely invested. It might be a good idea again to stress here that paint as a protective coating has its limitations, and that it simply cannot do the impossible.

Since the protection of surfaces subjected to ordinary exposures constitutes no problem, this article will deal with abnormal conditions which require special attention. There are plenty of these in the textile industry. All these problems cannot be cured with paint alone, but an improvement in paint performance can be secured if the surface is correctly prepared and the proper materials are selected.

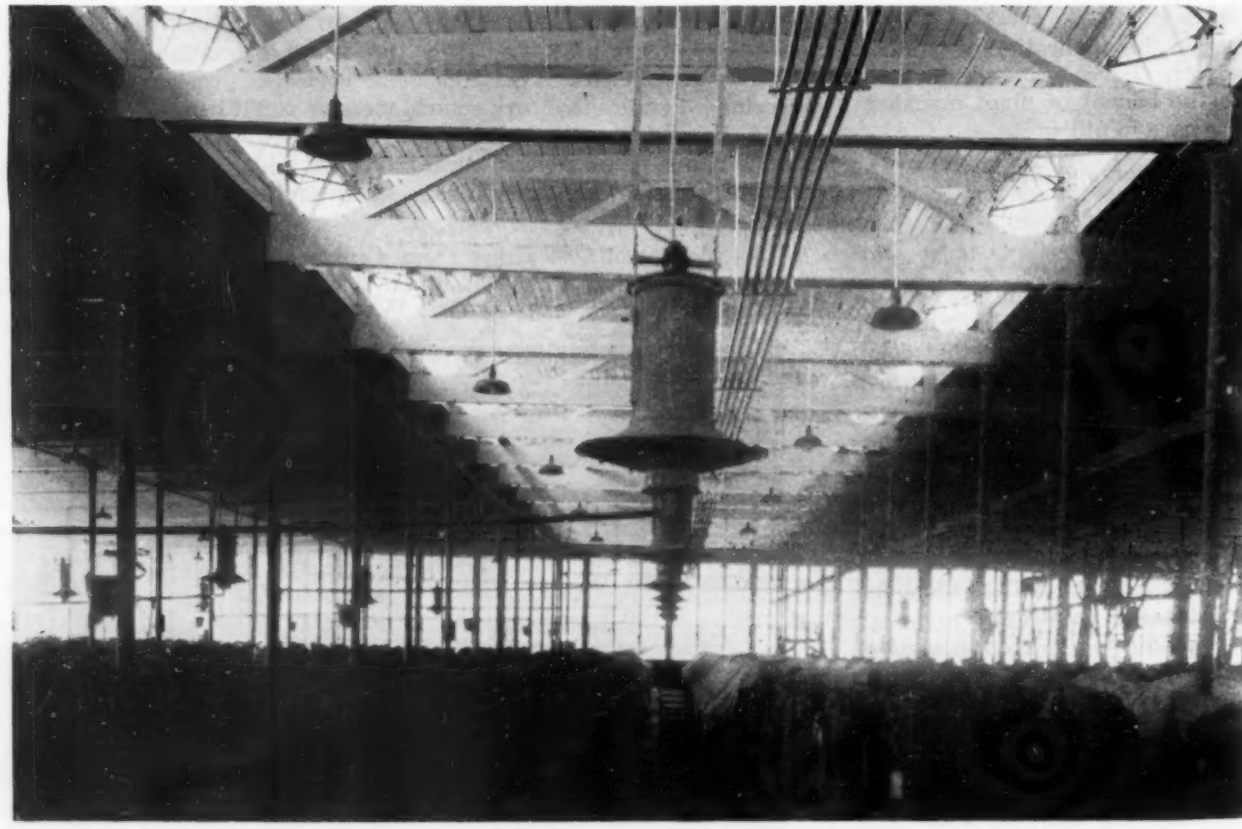
**Lime Burning**

Lime burning is one of the most troublesome problems in textile plants. It occurs in mortar joints or over masonry surfaces where moisture and condensation occur. This happens generally in weaverooms, stairwells, corridors, bleacheries, or similar areas.

This is the way this happens: The moisture activates the lime in the mortar joints or plaster, and saponifies the oil in the paint film. This in turn causes discoloration and film failure. In some plants, zinc sulphate solutions have been used to wash these surfaces, but this has not proved to be effective. As long as the surface is subjected to moisture, the lime is reactivated and the condition will recur.

In bad cases of lime burning, the best thing to do is to try to seal the surfaces so that moisture will not come through the paint film. Let the affected areas dry thoroughly, and then apply two coats of a chlorinated rubber paint. (One coat does not always thoroughly seal the surface, so a two-coat application is preferable.) After this has been done, the top paint coats can be applied as usual. Before doing this on a large scale, it is advisable to test this suggestion on a trial area as the severity of these conditions vary widely.

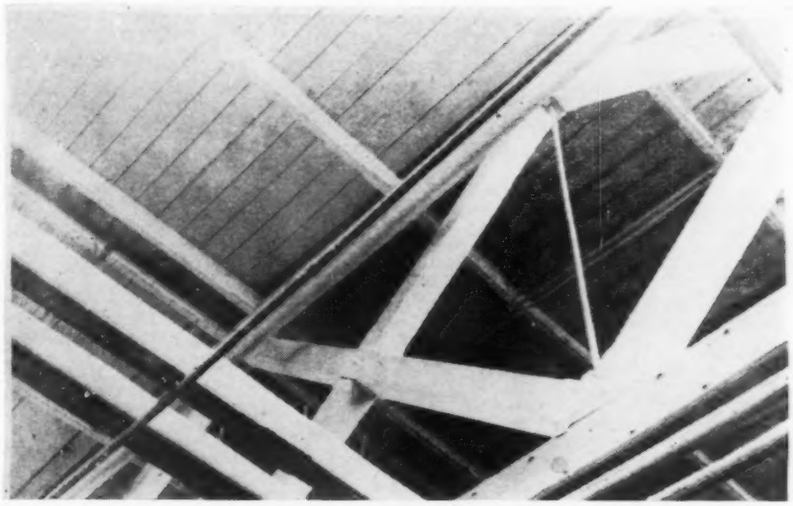
**Efficiency of the lighting system is reduced when ceilings become dark and dirty. Note contrasting light, in center of this weave room, where paint has brightened ceiling.**



Moisture and condensation also produce conditions favorable for the growth of mildew or fungus. Since they destroy paint, it is necessary to take this factor into consideration when painting areas in the mills where there is moisture.

Mildew spores are constantly in the air and settle on any surface, much the same as dust. Mildew immediately commences to grow whenever the spores settle on a surface which will support its growth. It thrives principally on surfaces subjected to high humidity and poor circulation of air. Its elimination depends entirely upon the removal of the condition which causes fungus. Mildew is therefore principally an insulating and ventilating problem. All we can expect to accomplish with paint is to retard the mildew formation. This is done by incorporating an inhibitor in the paint. By careful research, some inhibitors have been developed so that they are toxic to mildew but can be used with safety.

Painting over surfaces that are subject to mildew should be done only after they have been thoroughly dried and no condensation is present. In weave-rooms, for example, this can be accomplished by painting in the summer, when condensation is at a minimum and surfaces can be dried rapidly. The surface should be cleaned thoroughly before painting. At least two coats should be applied, as a two coat application is much more resistant to mildew than a single one.



**Illustrating use of mildew preventives. Lefthand section painted with mill white containing an inhibitor. Righthand section painted with an untreated mill white.**

## Rust and Corrosion

Another important phase of plant maintenance is the prevention of rust and corrosion of metal surfaces. This presents some difficult problems. Metal surfaces must be properly protected if this is to be accomplished.

Too much emphasis cannot be placed upon the necessity of thorough preparation of metal surfaces before priming or succeeding coats of paint are applied. Good results are entirely dependent upon thoroughness in cleaning the surface and removing the rust and scale.

Sand-blasting is the most efficient method of cleaning steel. It is not always possible to utilize this method. In such cases as complete a job of cleaning as practicable should be done, using rotary wire brushes if possible. Good painting practice also indicates that painting should be done only in dry weather and to dry surfaces.

Watch carefully steel sash that is subjected to condensation. The moisture condensing on the glass frequently runs down behind the putty and causes rust. In painting these surfaces, be sure to remove all loose putty; prime the sash with bakelite or synthetic type primer and re-glaze with a high grade steel sash putty. Finishing coats should be of the same type of material as used for priming. Steel doors in weave-rooms and other places should be treated in the same manner as steel sash.

Before repainting cold water pipes and other lines that have rusted, they should be thoroughly cleaned and primed with a good rust inhibiting primer. Too often these pipe lines are painted without proper cleaning and without priming.

All metal surfaces should be repainted as soon as the top coat fails and the primer begins to show through. If this is done before corrosion starts, much time and money will be saved by eliminating the expense of cleaning and repairing the surface.

All machine parts which are subjected to these same conditions should be treated similarly.

### Paints for Heated Equipment

It is necessary to be careful in selecting the right color for painting steam pipes, radiators, drying ovens, etc., which are subjected to high temperatures. It must be remembered that light-colored finishes will discolor under medium degrees of heat. It is extremely difficult to secure satisfactory performance from paint finishes on surfaces where the temperatures register above 500 degrees Fahrenheit. The best thing for hot surfaces is a dark color—maroon, gray or black—in a heat-resisting enamel, or a heat-resisting aluminum if a metallic finish is desired.

### Protection Against Fumes

The problems caused by acids and fumes must be carefully considered in connection with painting dye houses, bleacheries, and similar areas, as they present a threat to the life of a paint film. To secure satisfactory performance it is well to know just what fumes and acids are to be contended with.

Where chlorine and alkali fumes are present, chlorinated rubber finishes are preferred, as they are highly resistant to these corrosive chemical agents. These finishes do not have the build or hiding power of other finishes because of their low solids content, so for ordinary work a three-coat system is recommended. For surfaces sub-

The dyehouse requires special finishes to reduce damaging results of fumes and moisture.

jected to severe conditions, or very rough ones, four or more coats are preferred. Where acid fumes, moisture, etc., are the principal factors, "Bakelite" or phenolic finishes are recommended because of their heavy consistency. They deposit a thick film which dries to a hard, impervious finish.

Chlorine and alkali are also highly corrosive. Steel and metal parts are the principal surfaces that require protection from them. In painting over metal we cannot stress too strongly the need for thorough cleaning and surface preparation. All rust and scale should be removed. This can be done either by sand-blasting or by the use of rotary powered steel brushes or chipping hammers. In painting metal surfaces the edges should be striped with a primer selected so as to provide extra protection at that weak point. Then two coats of primer should be applied to the entire surface. This should be followed by one or two coats of the finishing coat.

Walls and ceilings should be carefully inspected and finished with a fume resisting mill white undercoater and top coated with a fume resisting mill white enamel.

### Floor Treatment

Oil seepage on floors is a common problem, especially in spinning rooms where oil splashes from the frames. In some places the floors may be so badly soaked that the oil cannot possibly be removed by scrubbing or by the use of solvents. If, however, they are not too badly soaked, their condition can be improved by the application of a penetrating wood finish. This treatment, by sealing the pores of the wood, holds the oil on the surface so that it can be removed by a light mopping.

The areas under machines can be painted with an oil-resisting finish such as a synthetic or phenolic type enamel. If the floor is badly oil soaked, it should be scrubbed clean and then given two coats of pure gum shellac before the enamel finishes are applied. Light colors, such as light grays or greens, should be chosen so as to provide the maximum amount of light reflection under the machines.

### Machine Painting

Machinery and equipment should be thoroughly cleaned before painting in order to secure proper adhesion. Care should be exercised to make sure that the surface is dry and free from dust, lint, grease, rust, and dirt. Glossy surfaces should be sanded slightly to dull the gloss and improve adhesion.

It is no easy job to clean some machines which have been in service for considerable periods of time. They often have become coated with lubricating oils, compounds, etc., which cannot be successfully removed with the usual volatiles such as kerosene oil, turpentine, and gasoline because they leave an oily or gummy film on the surface. In such cases we recommend a thorough cleaning by using one of the standard brands of penetrating chemical solvents. These products have excellent degreasing qualities and are usually non-toxic and non-flammable.

After the machine has been thoroughly cleaned, all surfaces where paint has chipped off or where the finish has been worn off should be touched up with a machinery enamel primer. Then it is ready for the application of the finishing coat.

### Exterior Painting

Maintenance painting on the exterior of textile plants presents few unusual problems. The ones that do arise are similar to those found in most industrial plants. The usual corrective measures should be taken to prevent rust and moisture pealing where these conditions occur.

Sash should be watched closely in those departments of a textile mill where condensation is a problem. It should be painted more frequently than other surfaces that are not subjected to such severe conditions. Wood sash should be thoroughly dried out before repainting. (Some mills keep extra sash on hand to replace sash that needs repainting or repairing while the sash that is removed can be thoroughly dried and repaired in the shop.) After the sash is thoroughly dried, all loose putty should be removed and the surface primed with an exterior paint before reglazing. Use only the best grade of white lead putty for reglazing to prevent cracking and shrinkage of the putty. Make sure that all joints are caulked tight to prevent moisture from seeping in. The wood sash should then be primed and top coated with a high grade exterior paint suitable for this purpose.

### Wood Siding

Wood siding, especially Southern Yellow Pine, should be carefully checked for construction de-

fects before painting. All loose boards should be very carefully renailed. Cracks and joints should be caulked to prevent moisture from entering the wood.

Paint failure over Southern Yellow Pine generally follows a typical pattern: The expansion and contraction of the wood causes flaking and cracking of the paint films. These defects are aggravated if the paint films are not sufficiently elastic to adapt themselves to the contractile changes which take place in the wood. Paint usually fails most rapidly over sap in yellow pine. The resin and the sap may bleed into the paint and make it hard and brittle. The treatment of these sap streaks with shellac is not entirely satisfactory for exterior work. The best thing to do is to apply a thin coat of aluminum paint and allow for thorough drying before the priming coat of paint is applied.

Painting improperly seasoned or green wood is always hazardous. The wood contracts across the grain as it dries, while there is very little contraction with the grain. At the same time, the paint film contracts both with the grain and across the grain; thus the difference in the shrinkage of the paint and the wood are responsible for some of the defects which may later ensue.

If there is any doubt about the wood having been properly seasoned, only a priming coat of paint should be applied until thorough drying has occurred. In some cases this may require as much as six months, if the new or unseasoned lumber has been applied during the late fall.

Scaling, peeling, and crumbling which are sometimes exhibited by a paint film are often due to moisture conditions. For instance, when moisture enters it causes major changes in the volume of the wood. These changes are likely to be severe, especially in the case of yellow pine. Inelastic protective films cannot accommodate themselves to such changes, and they break at the junction of the spring and summer woodbands where the strain is most severe. More moisture then enters; the volume changes recur; and the adhesive properties of the film are lost.

*All photos courtesy, Du Pont*

**Penetrating wood finish on floor of card room, to minimize scrubbing.**

When premature breakdowns in paint films are experienced on wood or masonry surfaces, it is generally due to moisture. A careful check should be made to determine the exact cause of the failure so that steps can be taken to correct it.

On the preceding pages we have tried to point out some of the troublesome and annoying conditions which are encountered in painting textile mills and which are the principal causes of excessive maintenance costs. At the same time, we have made suggestions as to how these conditions should be handled in order to improve performance and thereby reduce painting costs.

A successful maintenance painting program requires the close cooperation of the consumer, the painter, and the manufacturer. Before any major project is undertaken, we strongly urge that a qualified painting engineer be consulted as to the proper colors, type of material, and surface preparation required to secure a satisfactory job. A little foresight and planning can save much time and money as well as produce the best results.

In planning your maintenance program, the colors should be selected with as much care as the quality of the finishes. Plant rehabilitation through color is making real progress. It is establishing standards which will one day cause a lot of us to express amazement over the drab conditions of the past. Color is assuming a role in efficient plant maintenance in keeping with the progress along the lines of engineering, lighting, machinery, production methods, time studies, safety devices, and principles. All these factors complement each other in improving conditions under which men and women work, in making the plant more efficient, and in reducing the cost of its upkeep.

## Ga. Ass'n Announces Convention Plans

The 1947 convention of the Cotton Manufacturers Association of Georgia will be held at the Sheraton-Plaza Hotel, Daytona Beach, Fla., on May 15-16, according to a recent announcement by T. M. Forbes, executive vice-president.

### Reservation Plans

All reservations must be made through the association's executive offices in Atlanta. Requests for reservations should be addressed to: T. M. Forbes, Cotton Manufacturers Association of Ga., 740 C&S Bank Building, Atlanta, Georgia.

# Applied Maintenance Plan

**By M. R. HARDEN**

**Control of quality and production stems from rigid application of approved maintenance plan.**

AN EFFICIENT method of machine maintenance is of utmost importance today. The highest wages ever being paid maintenance crews, coupled with the high cost of machine parts, makes it necessary that proper settings and adjustments be maintained. Misalignment and wear must be detected and corrected in time to get maximum efficiency. The most effective control of quality and production in our plants stems from rigid application of our approved maintenance plan because it prevents costly breakdowns.

### Opening and Picking

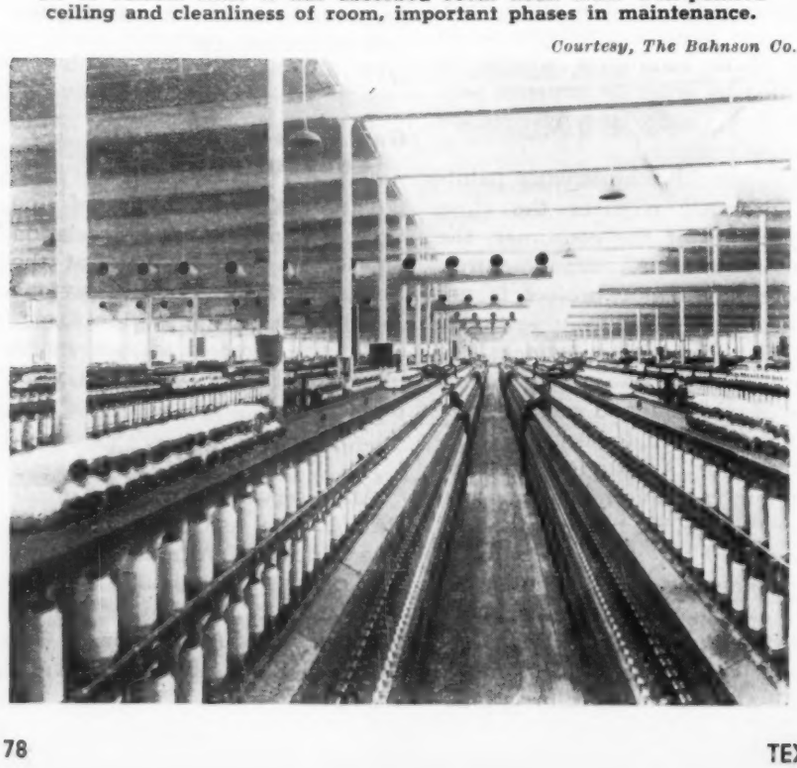
We believe it pays to keep extra slatted aprons and spiked lifting aprons on hand, so that when an apron needs repair we are able to put in quickly a new (or previously repaired) one in place of the worn apron. In this way time is saved, and the old apron can be repaired more readily while it is out of the machine.

Bearings are examined frequently to avoid over-heating. This is especially important in the opening and picking department in order to prevent fires. Beaters, cages, and screens are examined every day when machines are opened for cleaning. This is the best time to examine them.

Our section man is given additional help every six months, at which time we give our machines a thorough overhauling. Dull beaters are replaced, or milled down, and bars reset. All new shroud leathers are put in at this time. Worn parts are replaced or repaired and all machines left in good condition. We can usually complete one machine in eight hours. Our section man lubricates these machines; he is held responsible for carefully following the lubricating schedule as posted.

**Air conditioning system in spinning room. Discharge outlets are aligned in one direction on one side of the room and in the opposite direction on the other side, giving a gentle horizontal circulation of the conditioned air. Vertical exhaust ducts in center of room carry air to outside after it has absorbed room heat. Note well-painted ceiling and cleanliness of room, important phases in maintenance.**

*Courtesy, The Bahnson Co.*



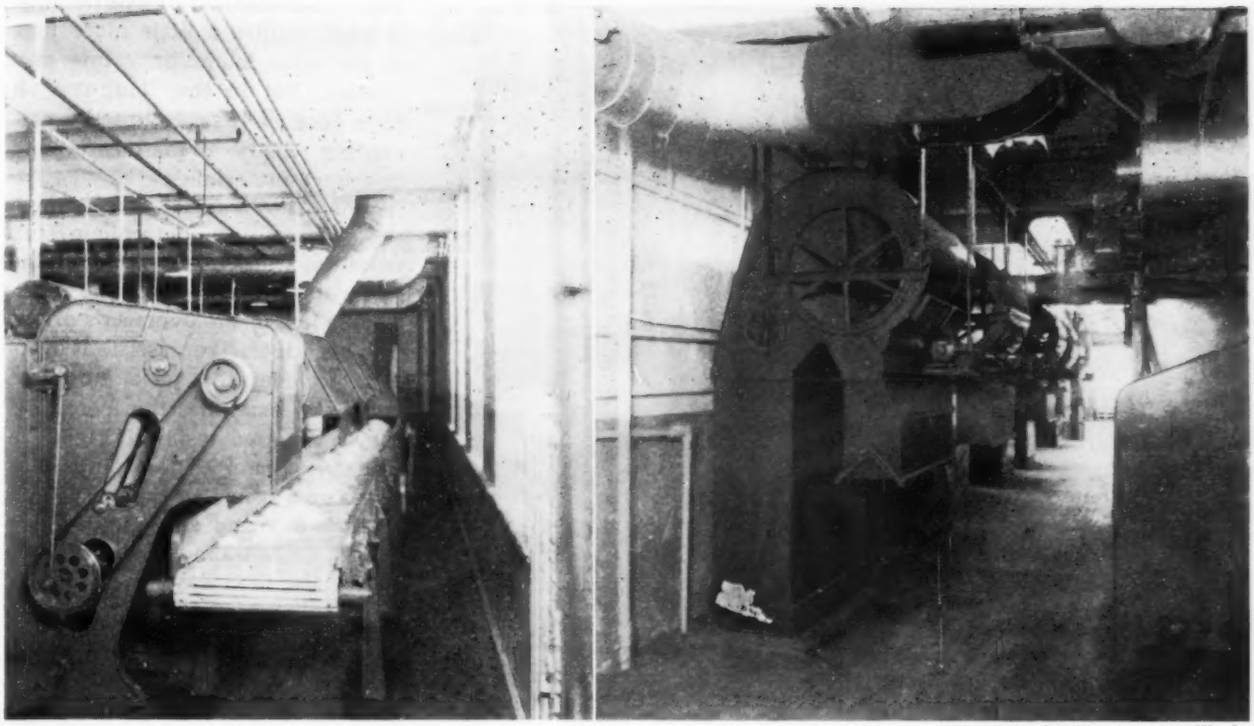
### Cards

Our card grinders do all maintenance work on our cards. Here again, as in case of the section man, the grinder is the proper one, we think, to do the oiling. We maintain a posted grinding and setting schedule in this department. When a card is ground and set up, the grinder marks the card number down on a board and gives the date and his signature. In this way the assistant overseer, or anyone who desires, may examine the card. This also helps to control the proper grinding frequency of our cards.

A card system is kept up-to-date on clothing, replaced lickerin, flats, etc. We can look up and know exactly what was done and when it was done from this permanent record file.

### Drawing and Roving Frames

On drawing and roving frames, our regular overhauling crew comes into the picture. We have 19 people and a foreman in this crew. They service all three of our plants here around every six months. There are nearly 90,000 spindles with drawing and roving frames to balance production.



*Courtesy, Whitin Machine Works*

**Left, blending feeders and conveyor; right, return air condensers in picker room.**

The long draft equipment is gone over every three to four months, and all worn parts are repaired or replaced at this time. We also change the calf skin aprons and cork rolls at this time, replacing the bad aprons and all the cork rolls.

We find that it pays to buff cork a little *more often* and not cut away so much *each* time. Using this system, they last longer and give us better results.

All roving bobbins are brushed and inspected by a member of the overhauling crew. He also gauges every bobbin with a standard set of gauges and throws out all broken, badly worn, or undersized bobbins.

The frame section man does his own oiling and all regular fixing between overhauling periods. He is held responsible for the general maintenance of his machines.

### Spinning

Our overhauling crew takes down two frames a day. They start with frame No. 1 each time and go straight through to the last frame in the department. They scour, level, line, plumb spindles, and make all repairs necessary. The oil is pumped out of all spindle bases; bases are refilled with fresh oil. They grease roll necks, oil top rolls, and lubricate the entire frame, and replace all parts which are badly worn.

This method of complete overhauling prevents serious shutdowns, and makes for better balance, quality, and production.

Our shop has both acetylene and electric arc welding, and many parts are expertly repaired and restored to correct size and shape. The head overhauler, the overseer of the department, and the shop foreman work together in the selection of parts which can be satisfactorily repaired, and also on inspection of these parts (after repairing) before they are again used. Some small or more intricate parts are not repaired in this way, but are simply replaced by new ones.

We use the Guillett system equipment for our overhauling crews, and think it speeds up the work, giving us a higher degree of accuracy in our settings, lining, leveling, etc.

In order to maintain a good set of roving skewers at all times, each spinner replaces these as they are needed. The section man keeps a new skewer in the creel at the end of each frame where it is readily accessible. When the spinner finds one with a badly worn point she can replace it promptly.

The overseer, or assistant overseer, examines each frame as it is started up and confers with the head overhauler about any point which requires additional attention. If the frame is in good condition, it is approved; otherwise, adjustment is made then.

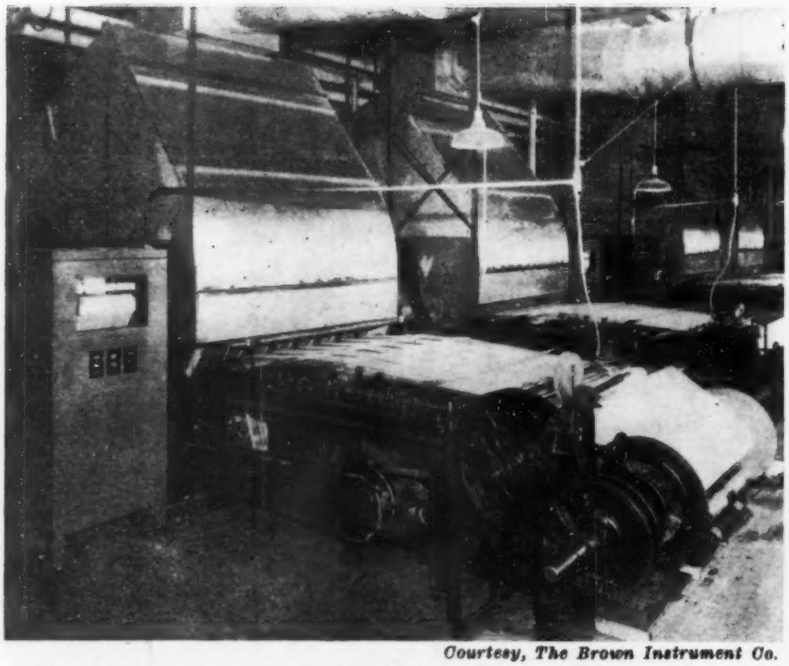
### Spooling and Warping

Very few parts are repaired in our shop for the Barber-Colman spooling and warping machines. We find that replacement of worn parts with new ones is essential for good operation of these important production machines. The regular overhauling crew does not take care of them; our section man is responsible for complete maintenance.

We follow closely the recommendations of the manufacturer with regard to oiling, cleaning, and repairs.

On these machines, as well as all other machines in our plant, wherever any part is welded, it is enameled in the matching color of the machine before it is put on again.

We have a board on which a record is kept concerning the lubrication and general care of the ma-



*Courtesy, The Brown Instrument Co.*

**Automatic moisture controls installed on cotton slashers in a southern textile mill.**

chines. It hangs in this department where it is easily seen. Listed on it are the various things to be done and the schedule of time for doing them. Space is provided for the date each item is finished and for the signature of the fixer (first and second shift). This serves as a reminder to the fixer as well as a record for the overseer's frequent inspection.

### Slashers

The slasher room has often been referred to as the "bottle neck of the mill." If we are to have good weaving, we must keep our slashers in good mechanical condition.

We have an assistant overseer, working under the overseer of weaving, who looks after these machines. He supervises the work and does all repairs on our five machines. He keeps constant check on all bearings, valves, controls, recorders, and moisture controls. (It is necessary for him to call on the master electrician at times for some adjustments on these controls.)

We remove our squeeze rolls periodically, scrape, paint, and recover them with a burlap base covering. This reduces rust spots.

### Tie-In Machines

One of the men in our electrical department is especially trained to make repairs on Barber-Colman tying-in machines. We follow closely the recommendations of Barber-Colman Company for maintenance of them.

Once a year we have a service man from the shops come in and give them a complete overhauling and check our extra parts stock. It is very important that these machines function well at all times as so much depends upon successful operation at this point in our manufacturing.

### Weaving

Our loomfixers make all the day-to-day repairs and adjustments on the looms on their sections. We also have one man and a helper who takes care of the major "break-down" jobs. These are specifically: (1) Loom sides, (2) drive gearing, (3) crank shaft, and (4) cam shaft.

The loomfixer does not work on these four jobs, but he does check over the loom after each job to get it into smooth operating condition, or final adjustment.

We have found, after long experience, that there is no better time for loom inspection than *when the warp is out.* Each time a warp comes out, the fixer examines the loom thoroughly for repairs which cannot readily be accomplished when the warp is on. This is our method of overhauling. It may require a little more time to get some looms back into production, but in the "long-run" it pays because it saves time by preventing costly break-downs and damaged materials.

When the loom is "warped up," the fixer pulls a detachable stub from the warp ticket and puts the loom number and his name on it. This is left in the overseer's office. The head loomfixer, assistant overseer, or overseer, picks up these stubs and examines the looms. If they are found to be all right, he approves them. These stubs also make up a record of the warps tied in each day and serve as a guide for the tie-in room for warps needed for the next day.

### Reclaiming Worn Parts

Any broken or worn parts are presented to the supply man when the new part is issued to him. He keeps these parts in a handy truck which has two compartments. At the end of each shift the head loomfixer goes through these and decides whether they are to be scrapped or repaired. He then divides these into the two compartments in the handy truck, and they are sent to the machine shop. (The broken parts have the pieces tied together so a better matched weld can be made.) The mechanic goes through the parts which are to be scrapped as a second check before throwing them on the scrap pile, just to be sure nothing has been discarded which may have further value, such as bolts, studs, etc. The other parts are repaired, finished, enameled, and returned to the stock room for re-issue.

We have a posted schedule for oiling and greasing in our weave room, and this is followed carefully by our oilers. The correct oil or grease is designated for each bearing on the loom, and no other is used at any time.

Our oilers use oil cups which measure the correct amount with a single thumb depression on the spring button. This saves oil and does not spill it on the floor or the loom.

Our oilers also carry a hooked wire with a wooden handle to open up oil holes which have become clogged with starch or lint.

## A Maintenance Policy —

# Lubrication

By J. T. ROCK

DO YOU USE *Lubrication as a Maintenance Policy* or are you just oiling? The majority of mill personnel know that their machinery must be lubricated, but few know or realize exactly why.

*Planned lubrication,* not haphazard oiling, is fundamentally the most important function of protective maintenance and mill operation. This is true because lubrication affects the entire operation, including the most important phases, quality and quantity production.

As time passes, more mills are becoming lubrication conscious and are interested in improving their lubrication practices. This increased interest is the direct result of the cooperation between the textile and petroleum industries. A number of large oil companies have built up engineering service organizations that assist industry in the use and application of lubricants.

### Theory of Lubrication

What is lubrication? Since no technical discussion could possibly convey to you practical information, we shall briefly outline the theory of lubrication and then discuss matters of mutual interest.

In theory, lubrication is the practice of using the comparatively negligible friction between several layers of lubricating films in place of the friction created by solid surfaces in direct contact. Lubricating films have a coefficient of friction considerably lower than that of solids. These will be in direct relation only to the viscosity of the lubricating oil and the projected load of the bearing. For all practical purposes, lubrication would be the correct amount of lubricating oil properly applied at the right time.

We are often asked what are the most difficult problems to overcome when trying to establish sound lubrication practices. We would list these obstacles in the following order:

(1) Improperly trained personnel who apply lubricants and who have little interest and no knowledge of machinery or of what lubrication is to accomplish.

(2) Use of oilers as errand boys, utility men, or for frame operators when other help is short.

(3) Failure to properly evaluate mechanical and operating conditions and their effect on lubrication and production.

(4) Improper storage and handling of lubricants and bad housekeeping.

(5) Personal preference for some particular grade of lubricant, regardless of its suitability for a given application.

(6) Preconceived ideas of what a lubricant should be and what it should accomplish.

(7) Established precedent of long years standing of applying the lubricants.

In view of these facts no attempt shall be made to outline specifications that are supposed to serve as a guide in the selection of lubricants. Any such attempt would change the purpose of this article and would be too general for practical use. On the other hand, we shall endeavor to discuss actual conditions that exist today, along with some actual case histories and observations that may aid you in thinking about your lubrication practices.

Starting with preparation machinery, let us think about existing conditions. On opening, picking, carding, drawing, roving, and spinning machinery there are numerous bearings with open oil holes. Even under the most ideal operating conditions a very small amount of dirt collects in the open oil holes and is washed into the bearings with the next application of lubricating oil. The dirt combined with the oil increases wear and maintenance problems.

This condition can be greatly improved by the installation of low cost spring top oil hole covers.

### Semi-Automatic Oilers

It is also possible to install certain semi-automatic lubricating devices that will decrease the frequency of application and provide a constant and clean film of lubricating oil. The constant and clean film of oil will minimize wear and reduce maintenance costs.

Have you recently checked the frequency of application on this equipment to see if it is consistent with the degree of mechanical wear, mechanical design, and the operating conditions?

Are plain bearings neglected, and are anti-friction bearings and card comb boxes over-lubricated in your mill as they are in the average plant?

How often do you clean spindle and bobbin gear shaft bearings and carriages of roving frames?

Is your schedule consistent with proper maintenance, good lubrication practice, and accepted operating standards? The schedules of most plants are not.

It can be safely said that a large percentage of anti-friction bearing failures are attributed to over-lubrication and to the improper use of lubricants. Likewise, many of the difficulties in lubricating card comb boxes can be traced to excessive lubrication and to the attempt to correct mechanical conditions with lubricants that are too heavy.

On the other hand, excessive wear of plain bearings can be traced in most cases to the lack of the right amount of oil properly applied at the right time.

### Cleaning Important

Most operators know that failure to properly clean drawing rolls, shell rolls, carriages, spindle and bobbin gear shaft bearings on drawing and roving frames will have a detrimental effect on the quality of the product. Although in many cases it would be possible to provide lubricants that last longer in shell rolls, etc., yet these lubricants could adversely affect the quality of roving by lasting through the safe cleaning period (when the normal dirt and lint collection around the rolls is removed) and by retaining more than the normal amount of dirt and lint.

We have been in mills where the prerequisite of quality and quantity production is good housekeeping and adequate maintenance. In these mills we usually find improved lubrication practices and results, and particularly so when the machines are given special lubrication attention during weekly or periodic cleaning periods. As a result, enforced shutdowns are seldom encountered or interfere with top quality and production.

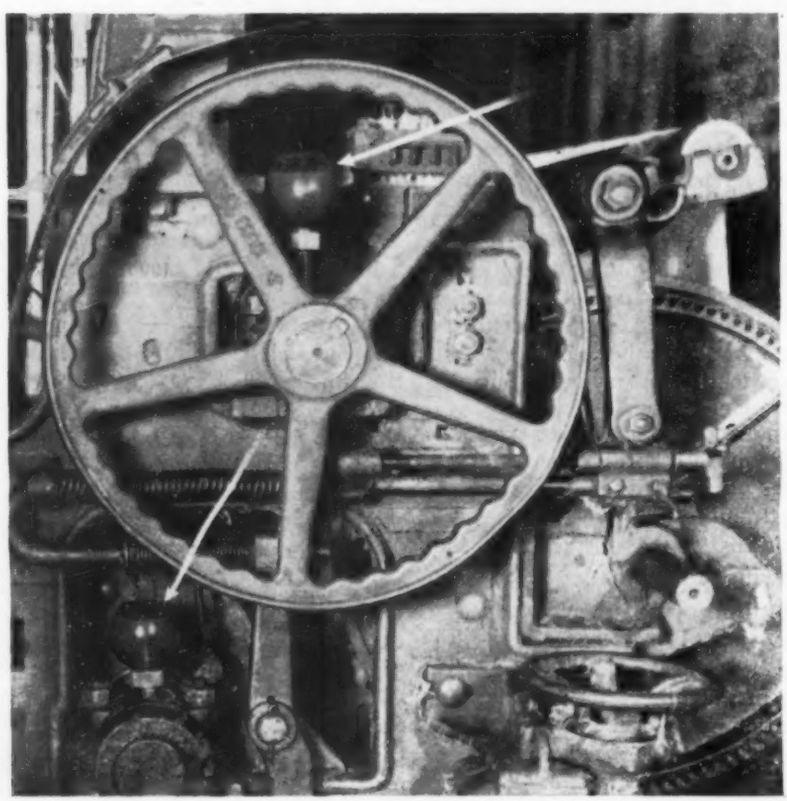
### Check Lubrication Schedules

On the other hand, many mills are still trying to operate three shifts and only providing adequate lubrication for two or two and one-half shifts. For example, some plants still follow the practice of lubricating spindles every two weeks. This same frequency of application was used when they operated from 120 to 160 hours every two weeks in place of the 240 to 288 hours that they now operate in the same length of time.

During the war, machines were, because of necessity, operated at higher speeds and for longer hours, in many instances with less maintenance than usual, since an adequate number of maintenance personnel were not available. Because the high demand for textile products has continued, it is only natural for the mills to strive for the utmost in production. If lubrication and maintenance are neglected until machinery is worn out, the revenue from the sale of goods falls off and profits are lowered. Then it will be too late to provide correct lubrication and make the necessary repairs.

Lubrication frequencies should

Bottle oilers in use on crank shaft and cam shaft of loom.



be revised now along with protective maintenance schedules to assure adequate care of your machinery. In the case of modern high speed equipment, improved means of applying lubricants have been provided. Likewise, lubrication schedules must conform to the changed operating conditions brought about by the higher speeds and heavier packages.

### Lubrication Devices

Modern high speed spindles require the best grades of spindle lubricating oil. The oil must have adequate viscosity to assure proper lubrication when it is correctly applied. The application of oil to spindle bases can be materially improved if you still use the spring bottom type oil can. With the spring bottom type oil can it is extremely difficult to fill the spindle bases properly. Proper filling of the bases is important with higher operating speeds; it was not a matter of too much concern when lower speeds prevailed and fewer machine hours were operated.

Pressure oil cans with positive measuring adjustments are available and may be used to improve spindle oil application, and for that matter other applications as well.

### Home-Made Spindle Oiler

You can also build in your plant at very little cost a spindle oiler that will assure improved application. In addition to assuring improved application, the home-made spindle oiler will enable the oilers to cover the job more thoroughly in less time with a considerable reduction in the number of trips to the oil drum.

Discussing the lubrication of spindles brings to mind one of those cases when a mill man had a very definite idea about spindle oil. We were called in to assist him in checking spindle lubrication, since he felt a large number of spindles were running dry between oilings and that excessive bolster and spindle wear was taking place. One of his best manufacturing men had informed him that the spindle oil was "rough" when it was rubbed between his fingers. For that reason we were requested to check carefully the grade of oil used in the various sizes of spindles.

After a thorough check of all conditions involved, the mill decided that their spindle oil was not being properly applied at the right intervals. A new man was trained for the job of oiling spindles and replaced one that had been oiling for 23 years. The new man was selected and trained because the older oiler objected to changing his methods and to using the new home-made pressure spindle oiler that was provided.

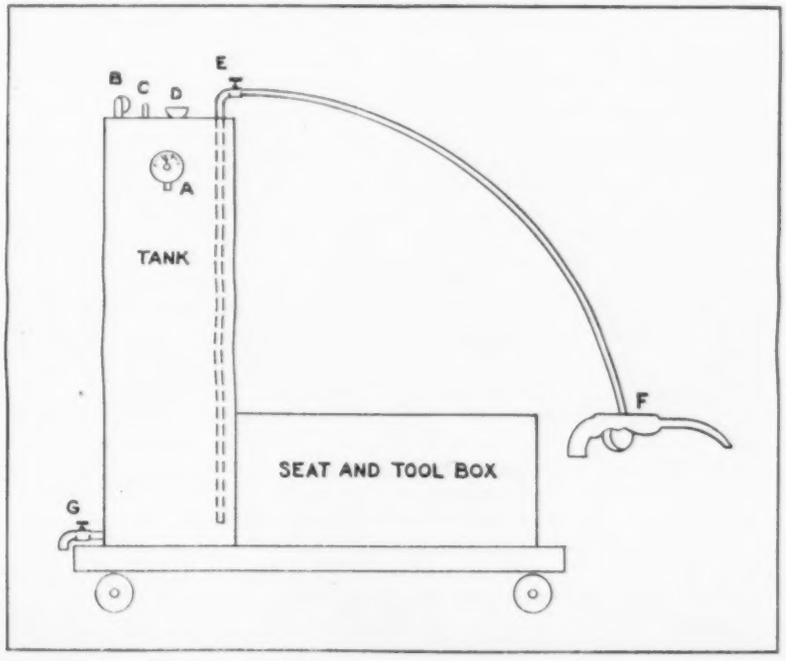
The results secured by the new man with the home-made oiler were amazing during the first twelve months after the spindles were overhauled. The spindles were lubricated one-third more often, the consumption of spindle oil was reduced 25 per cent, and bolster replacements were 43 per cent less.

Recently, I talked with a mill superintendent from South America who was in this country to study our methods. He was astonished at the high rate of depreciation of machinery in the textile industry. In South America where parts are not easily obtained and their cost is extremely high, they pay special attention to lubrication and protective maintenance. As a result of the method he learned in this country, he stated that he expects a machine now to last at least twice as long. In his opinion, with other factors equal, i.e., speeds, etc., this could only be attributed to better lubrication and maintenance.

### Spinning Lubrication

In spinning room lubriction, top rolls and steel roll stand lubrication is a matter of high importance. Successful lubrication results will depend on how often steel rolls are cleaned, how often saddles are cleaned and wicks renewed, and the proper frequency of application, along with the selection of a lubricant most suitable for the operating conditions. Rigid adherence to the adopted schedule, determined after a careful study of these factors, will insure the desired results.

Unsound lubrication practices




**Semi-automatic spindle oiler; this equipment may be made in the machine shop. Tank consists of a 30-gallon range boiler cut in half, with a top welded in place.**
**"A"—air pressure gauge (normal 5 to 6 pounds per sq. in.).**
**"B"—relief valve set at 10 pounds per square inch.**
**"C"—air input valve.**
**"D"—spindle oil fill plug.**
**"E"—oil outlet to filler nozzle.**
**"F"—spray gun nozzle, or any suitable type nozzle.**
**"G"—drain cock for tank.**

"He was truly making speed with his long spout oil can."

are possibly more common in the weave room than in any other mill department. Here, application frequencies are established on a basis of preconceived ideas rather than on the actual needs of the machinery as governed by operating conditions and the mechanical design. Few looms are actually lubricated at intervals sufficient to prevent excessive wear. Here again, as possibly in no other department, enforced shutdowns affect production, and bad lubrication practices affect maintenance and quality.

The basis of good loom lubrication is the attention given the loom when the warp is out. Proper cleaning and lubrication at that time will go a long way towards improving lubrication results, maintenance, and quality production. We appreciate the fact that a loom is very difficult to clean even when the warp is out; however, it can be and is done in many plants. When proper cleaning is the rule we always find better lubricated looms, lower supply and maintenance costs, and improved production, accompanied by a low percentage of seconds.

Possibly the most glaring neglect in the lubrication of looms is that of small parts. Though main bearings are not lubricated at proper intervals, they do receive more attention than small parts. Top weavers say that neglect of small parts will contribute more to bad quality than any other factor in weaving.

Semi-automatic oiling devices can be installed on the main bearings; they will greatly reduce the frequency of lubricant application, provide the desired constant clean film of lubricant, and greatly lessen the chances of oil stains. These devices also prevent oil from running out of bearings and down the loom sides, and allow the oilers more time to lubricate small parts with correct lubricants. The reduction in maintenance that will follow is always more than welcome.

### Covering the Job

An amusing case was recently encountered along with a very dumfounded mill superintendent. On a regular visit to this plant, we were checking loom lubrication and noticed one of the oilers on the far side of the weave room. Unobserved, we watched this oiler for several minutes as he walked down one alley squirting oil through a pressure oil can at the crankshaft bearings of the looms in the alley to his right, and over the top of the looms in the alley next to him. He was truly making speed with his long spout pressure oil can, covering 50 looms in a very short time. Out of one hundred bearings "shot at," he hit exactly two in the right place (which was good at that extreme range).

Going back to his office, the superintendent started checking the record of that particular oiler. He had been employed at the mill for a number of years, during which time he had fixed looms. With this experience and background he should have made a good oiler—most former loomfixers do. His record, however, was one of indif-

(*Continued on page* 137)

WHEN FACED with specific problems, industry usually enlists the services of specialists who will make recommendations and suggestions. All or portions of their recommendations may be accepted to correct the conditions involved. In this respect, the services of experienced lubrication engineers are available, without cost, to assist textile mills in establishing sound lubrication practices.

The lubrication engineer is backed by research facilities, and he is trained to recommend the most suitable lubricants for specific conditions. He is aware of what lubricants can be expected to accomplish and has been trained to recognize the mechanical and operating variables that affect the lubricants.

While working with your personnel he will instruct them in the correct methods of application, in eliminating the wasteful use of lubricants, and in the mechanical variables that affect lubrication.

Unlike your operating personnel, who must think about production, personnel, and many other factors pertaining to operations, the lubrication engineer only has to study lubricants, application, and the operating and mechanical variables. True, he will recommend his own particular branded lubricants, but his branded lubricant recommendations are his quality products. His established brands are his most valuable asset. Most companies constantly supervise their manufacture and continually strive to make improvements through extensive research.—THE AUTHOR.

# The Dover Mill Group

**Description of modernization program under way by Dover Mill Co., and affiliates. Program is planned for completion by the end of this year.**

A SUBSTANTIAL modernization program is being carried out by the Dover Mill Co. and affiliated enterprises of Shelby, N. C. This program was started about one year ago and will be completed by the end of 1947. The mills included in the program are the Dover Mill Co., Ora Mill Co., and Esther Mill Co., of Shelby, N. C., and the Dora Yarn Mill Co. of Cherryville, N. C.

The four mills form an integrated group specializing in the manufacture of fancy fabrics used widely for dress goods, suitings, sportswear, linings, neckties, draperies, rainwear, and corset cloth. The mills were among the first to foresee the trend toward synthetics, having begun volume production of rayon fabrics about 20 years ago, and by constant improvement have kept apace with the rapid developments in this field.

The present modernization program was undertaken to furnish the mills with efficient machinery for handling the variety of fibers and yarns which make up the complex blends and combinations characteristic of their fabrics. In planning this program, full consideration has been given to the need for enough flexibility to permit the handling of combed cotton stock as well as the handling of synthetics.

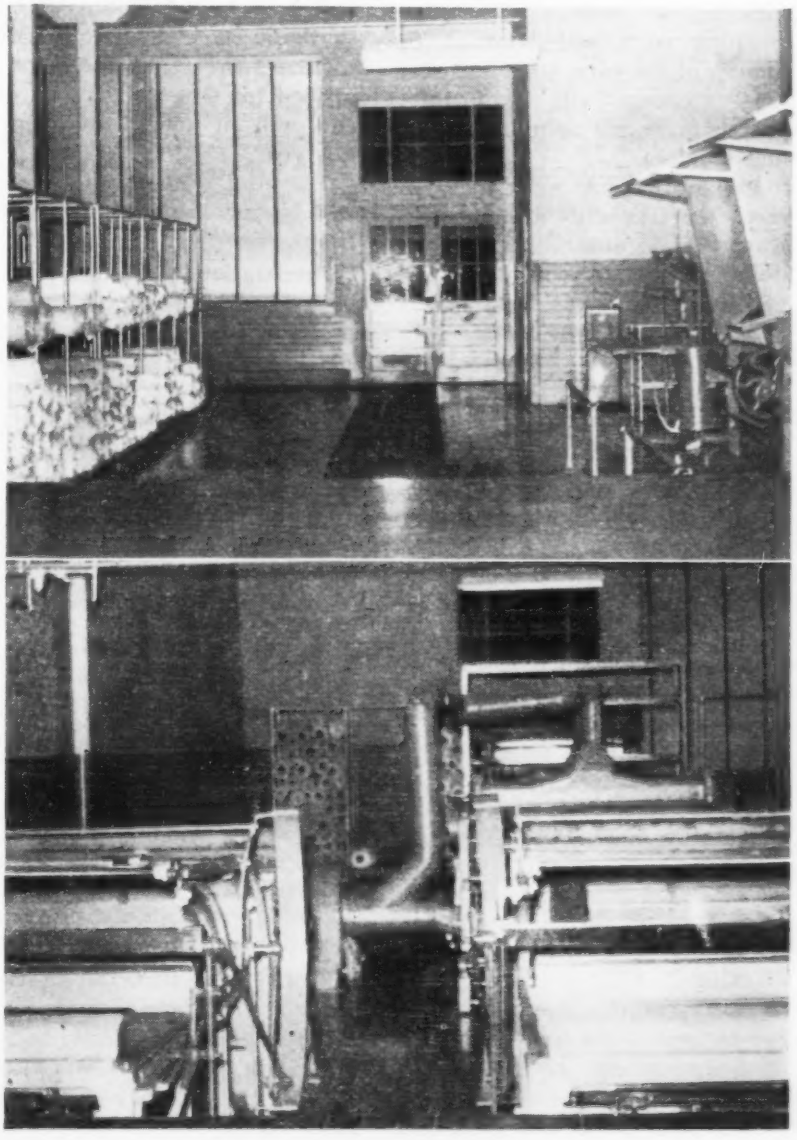
### Ora Mill

**Carding.** A new blending system for opening and mixing synthetic fibers has been installed which permits uniform blending, tinting and conditioning of the stock before being fed to the pickers. The system is made up of a battery of feed hoppers discharging onto a collecting apron which transports the stock to a fan. The stock is carried through the fan and into large storage bins where it is held under proper humidity conditions before being fed to the pickers.

Similar improvements have been incorporated in the cotton opening system.

All the present combers have been equipped with the latest improvements and developments.

The roving frames are being equipped with the latest type FS-2 long draft system and individual drives are being installed for each frame.



**Two views in the modern cloth room at Dover Mill. Note hardwood floor, venetian blinds and fluorescent lighting.**

**Spinning.** To carry forward the improvements and savings made in the card room, 16 spinning frames are being changed to 2 inch rings for handling larger packages. With the exception of four frames, this 16 frame unit is already equipped with long draft. Changeover parts are on order to equip the remaining four frames with Z-2 long draft.

A further improvement planned for the spinning room is the installation of individual drives on spinning frames, together with variable-speed transmissions, which will permit a wide range of speeds without changing the pulleys. This will greatly increase the flexibility of the equipment.

All of the existing twisters are being replaced with new high speed large package twisters equipped with cone creels, variable-speed drives and reversible tape tension pulleys. To reduce cleaning costs and improve the quality of the yarn, traveling overhead cleaners will be installed shortly over all spinning frames and winders.

**Preparation.** A new magazine creel for use with a high speed warper is on order. This creel is designed to handle up to 600 ends of filament rayon or acetate delivered from a 4-pound package.

All the present filling winders will be replaced in the near future by automatic filling winders.

The seven-cylinder high-speed slasher now in operation has been recently equipped with recording temperature and moisture controls.

### Dover Mill

**Carding.** A blending system similar to the Ora Mill installation is being completed. The installation of this system, together with other changes including the addition of new machines, has caused an increase of almost 25 per cent in the space assigned to the card room. When all changes have been made the new card room layout will permit efficient movement of the stock through the operation with a minimum of handling and backtracking.

Thirty-two new cards are on order to replace 24 old style cards. These cards will be the 40-inch revolving flat type equipped to handle both cotton and synthetics.

Thirty-six deliveries of drawing are being replaced by 48 deliveries of new drawing, a section of which will be designed for handling staple lengths of three inches and over.

The intermediates are being equipped with FS-2 long draft attachments. This will complete the changing of all roving frames to long draft and will result in a one-process roving system throughout the card room. All roving frames are being equipped with individual drives and clutch transmissions for more efficient operation.

**Spinning.** Sixteen conventional draft spinning frames will be replaced shortly by 16 new Z-2 long draft spinning frames designed for high speeds and large package bobbins. These frames will be equipped with variable-speed drives, reverse twist gearing, and will be adaptable to either synthetic, blended, or cotton yarns.

New twisters of the type described for Ora Mill are on order and will be placed in operation this year.

Traveling overhead cleaners will be installed over all spinning frames.

**Preparation.** A second new automatic filling winder is being put in place this month, replacing the slower filling winders formerly used.

A seven-cylinder high speed slasher will be in operation by late spring of this year, replacing a single cylinder cotton-type slasher now in use.

A complete overhead tramrail system will be placed in operation at the same time, which will make it possible for all section and loom beams to be handled to and from the warpers, slashers, and into storage with a minimum of manual effort.

**Weaving.** Forty-two S-4 box looms have been replaced by 64 XK high speed looms. This change will result in a considerable increase in production with relatively little increase in labor costs.

**Cloth Inspection.** In order to make room for necessary card room expansion, a new addition was built to the existing warehouses to furnish space for the cloth room.

This department has been completely modernized with new inspection machines, tables, and combination stitchers, brushers and folders. The room has been laid out for a straight-line flow of the material from its receipt to final packing, with an adequate and easily accessible storage area provided.

The construction, fittings, and finish of this room make it a striking example of the trend toward more agreeable and attractive working conditions found in the southern mills today. The floors are of narrow hardwood flooring and have been sanded and waxed to a high finish, which for the sake of safety is almost skid-proof. The walls and overhead are painted in harmonious, non-glaring colors blended into an overall color scheme for maximum efficiency by the inspectors.

The large window-walls on three sides are equipped with venetian blinds which fit into the color scheme. This cloth room can readily be classed as one of the most attractive in the United States.

**Auxiliaries.** The Dover Mill has recently been completely equipped with a new humidifying system, providing controlled humidity conditions throughout the plant.

A new elevator and shaft will be erected shortly at the north end of the mill to relieve congestion and lost time at the existing elevator.

Much needed additional storage space was provided recently by the completion of a new warehouse for raw materials. This warehouse will be equipped with a tramrail system for handling bales of rawstock from the warehouse to the opening room.

### Esther Mill

**Carding.** Since this plant is entirely devoted to the production of synthetic fabrics many changes which will improve the handling of these fibers have been recently completed. Blending and mixing equipment of the latest type is in operation and plans are on file for expanding and streamlining the present picker room.

New drawing frames for handling long staple fibers will be installed this year replacing the

present equipment.

All roving frames have been changed to long draft and a one-process roving system is being used for all stock.

**Spinning.** Installation of 24 new Z-2 long draft spinning frames was completed early in the spring of 1946. These frames have a wide speed range and produce a large package bobbin. These frames are equipped with traveling overhead cleaners.

New high-speed, large package twisters are on order to replace the present equipment.

**Preparation.** All filling winders were recently replaced by the installation of two 36-spindle units of automatic filling winders.

Warp preparation has been improved by equipping the high speed slasher with automatic temperature and moisture controls.

Plans are being drawn up which

(*Continued on page* 119)

# American Yarn & Processing Company

FOLLOWING UP a thoroughly scheduled plan of modernization throughout their plants, The American Yarn & Processing Co., Mount Holly, N. C., have recently installed new yarn gassing equipment for the processing of yarn.

The new combination gasser and ball warper is a great improvement over previous machinery used for these two processes—namely, by putting warps in ball form and passing yarn through a gas flame in order to burn off the protruding fibers to give the yarn a smooth finish.

With this new machine, it is now possible to produce two ball warps, either gassed or untreated, during the same period of time that was formerly required to produce one warp.

The combination gasser and ball warper is equipped with a 4-wing, 840-end creel, making it possible to produce two balled warps up to 420 ends each or one warp of 840 ends or less.

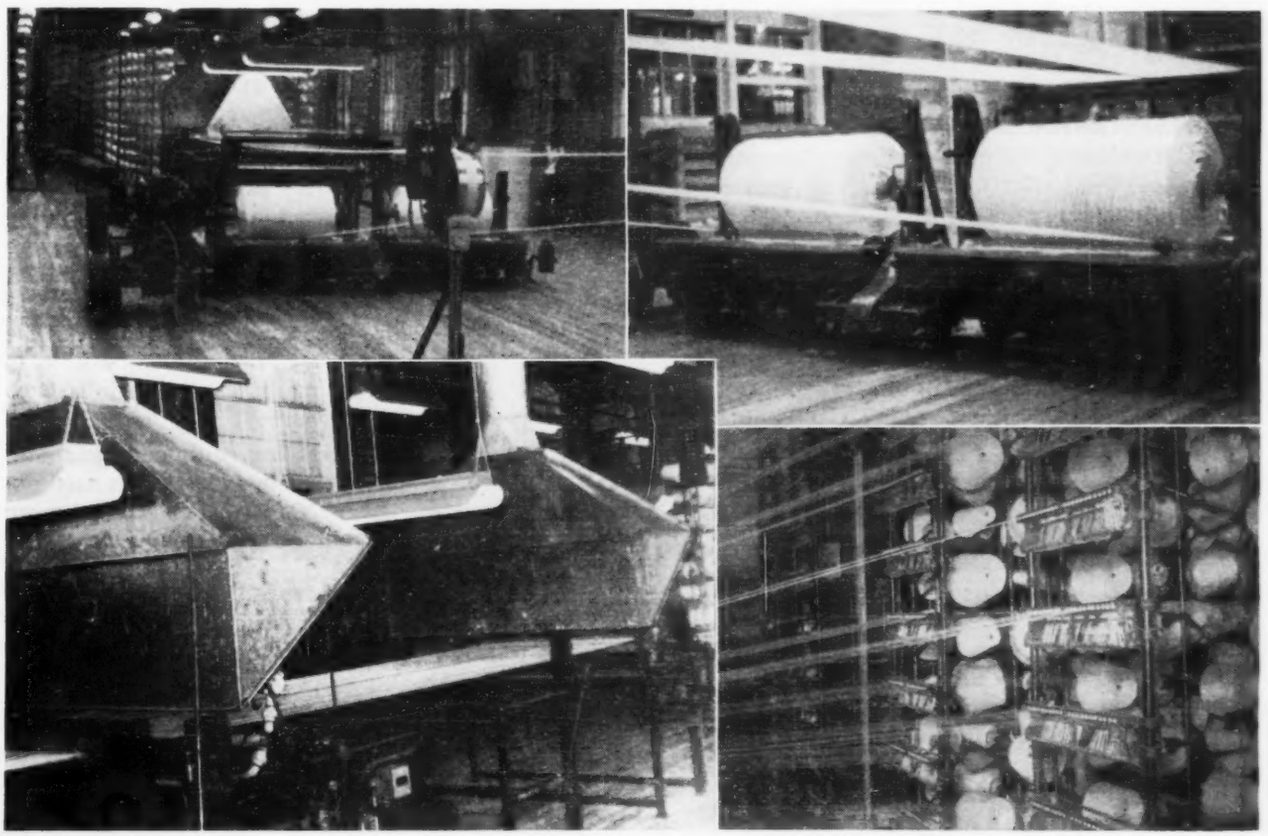
### Flame Applied Twice

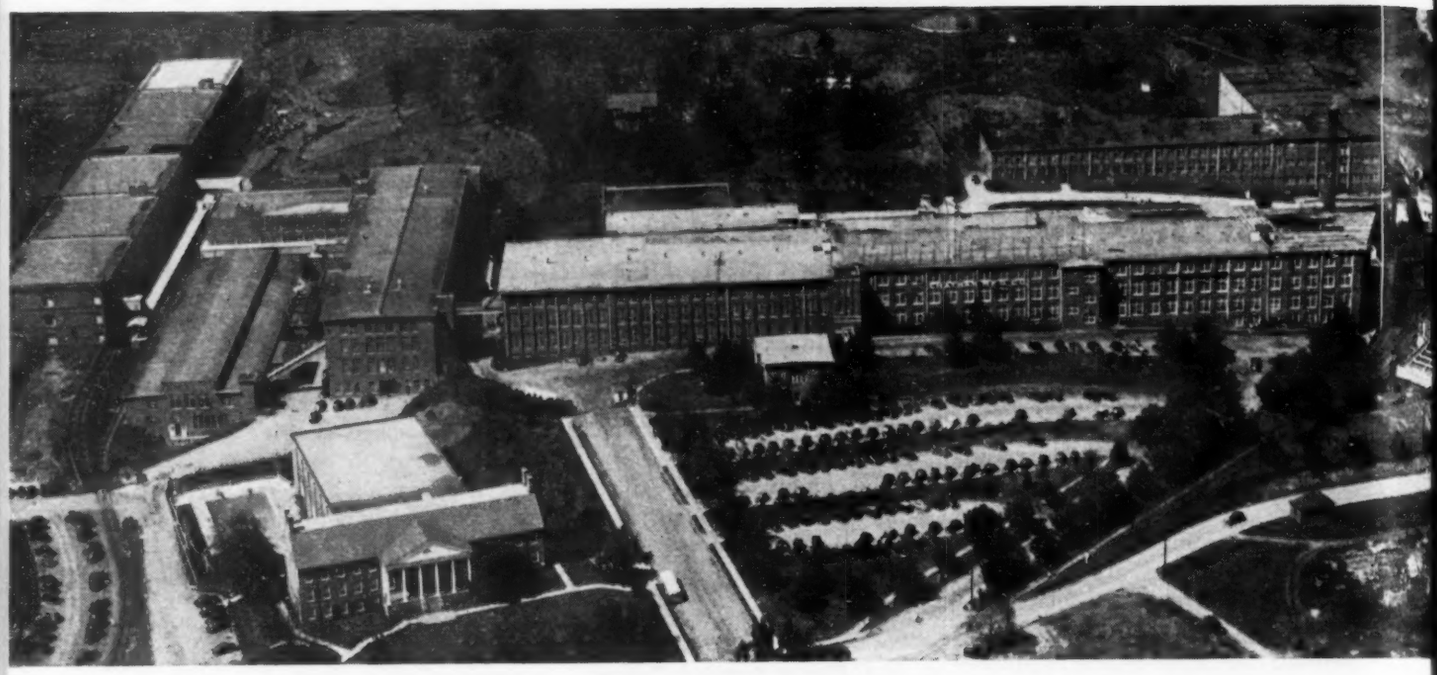
The gas is applied at two points on the improved machine—shortly after the yarn leaves the creel and again prior to being wound in balled warp form. The yarn passes through the gas flame at a speed of 225 yards per minute.

This speed enables all protruding fibers to be burned from the yarn, leaving a smooth surface and yarn that is not damaged or weakened to any great extent as a result of passing through the gas flames.

When running balled warps without gassing the yarn, the speed of the machine is 500 ypm. Reference is made to the accompanying illustrations of this new gassing equipment.

**Yarn gassing equipment at American Yarn & Processing Company. Upper left, general view of equipment; upper right, two balled warps; lower left, close-up of yarn passing through gassing equipment; lower right, the 4-wing, 840-end creel. Note flame application at two points.**





# Chatham's Maintenance Department Staffed for Overall Service

THE MAINTENANCE program at Chatham Manufacturing Company, Elkin, N. C., operates around a central maintenance department that is completely staffed and equipped to carry out general maintenance of the plant properties and to render complete machine shop, electrical, pipe fitting, sheet metal, carpenter, painting, welding, and lubrication service to various maintenance and repair units in the different manufacturing departments throughout the plant. Each of the different services constitutes a separate division of the central maintenance department, and each is under the supervision of a separate foreman; the foreman is directly responsible to a master mechanic who in turn is responsible to the plant engineer.

Requests for maintenance services are made to the master mechanic or to the foreman in charge of the division rendering the type of service needed and necessary men and materials are dispatched to perform the job.

**Plans and Specifications.** All jobs outside of routine repair work are discussed with the plant engineer, and under his direction advance plans and specifications are made. These plans and specifications are passed on to the divisions of the maintenance department involved in the work to enable orderly scheduling, execution, and procurement of materials. Most materials are kept in stock at all times. Special materials are ordered in advance of the work schedule and closely followed up to avoid delays in the execution.

Careful study and preparation of advance plans for jobs are an important factor in reducing costs and speeding completion.

The central maintenance department is progressively making more machine parts and building machine units that ordinarily were purchased from outside sources. The development of this phase was hastened by the war, at which time it became virtually impossible to secure many parts and units from usual sources.

Metallizing equipment was added during the war and is used extensively for reclamation of worn machinery and machine parts.

**Machine Shop.** The machine shop division of the maintenance department is equipped with all types of machine tools, such as lathes, drill presses, shapers, milling machines, gear cutters, grinders, metal planers, power presses, key seating machines, etc., and is staffed with competent machinists

and mechanics. Machine parts are made or repaired in this unit. Overhauling of machinery is done with these facilities and personnel either in the shop or in the field, depending upon the portability of the machine to be overhauled. The personnel and facilities of this unit are also used for the erection and installation of new machinery and equipment in manufacturing departments when such work cannot be taken care of by the department mechanics.

**Welding Shop.** The welding shop was greatly expanded during the war. Here are fabricated many parts that previously were made of cast iron. This development grew from a critical shortage of castings. Many machine parts are reclaimed by welding. The shop is completely equipped for practically any type of welding job either in the shop or in the mills.

**The electrical division** is completely equipped and staffed to maintain about 2500 motors and controls of various sizes and complexity on the many different types of production machinery throughout the plant. An adequate stock of spare motors, controls, starters, and electrical repair materials is maintained in the electrical division at all times. This unit also either performs or supervises the lubrication of all the electrical equipment in the plant.

The electrical unit maintains the power and lighting distribution system from the generator at 2300 volts, 3 phase, 60 cycle to 220 volts at the point of service. The outside electrical system, which is maintained by this unit, consists of 14 sub-stations and is so arranged that they can be connected in open Delta to carry the load, in case of failure on any bank of transformers.

There are twelve elevators to be maintained by the electrical unit; this involves weekly inspection of vital parts and close supervision over the operation of the elevators.

**Lubrication Engineer.** A very important phase of the maintenance department is lubrication of machinery. This is under the supervision of a lubrication engineer, who works out with the various departments the proper types and application of lubricants. This engineer makes periodic inspections and maintains a constant check on lubrication procedure and on the results obtained from different types of lubricants. This service has resulted in great savings in lost time and repair costs.

**Pipe Fitting.** The pipe fitting unit installs and maintains all water, steam, air and sprinkler systems throughout the plant. This maintenance problem involves constant inspection of the systems and immediate repair or replacement of faulty valves, gauges, etc., and constant inspection and test of the fire protection system to make certain that it is always in readiness for emergencies. Complete maps of all underground piping are maintained and are of great value in locating points of new connections or modification of the system.

**Carpentry Shop.** A completely equipped carpentry shop staffed with competent carpenters, masons, millwrights, and laborers takes care of all structural repair and maintenance. The shop is equipped with a complete range of power tools, such as saws, shapers, planers, lathes, drills, etc. This unit maintains approximately 750,000 square feet of flooring, over which there is constant heavy traffic of wheeled material-handling equipment.

During recent years, it has been necessary for the carpentry shop to fabricate doors, windows, certain types of tanks, and machine framing of wood, and, as a temporary expedient, to operate a sawmill to overcome the acute scarcity of lumber and millwork.

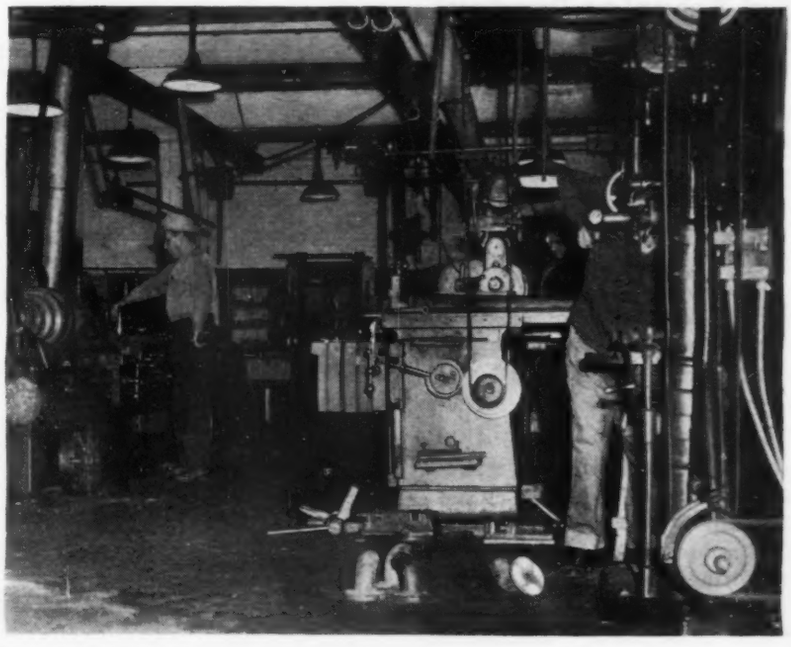
All company owned houses are maintained by this unit.

**Paint Shop.** A completely equipped and staffed paint shop is maintained under the supervision of a competent master painter. This unit takes care of interior and exterior painting, floor sanding and finishing, water-proofing, glazing, caulking, and protective finishes for machinery.

**Sheet Metal Shop.** The sheet metal shop has equipment and personnel to fabricate and maintain pneumatic conveying systems, ventilating and air conditioning systems, roof and gutters.

In addition to the routine maintenance, this unit is called on for fabrication of sheet metal parts and production equipment on which it cooperates closely with the welding unit. Many units

**View in the main machine shop at Chatham Mfg. Co.**



**Repairing a motor in the Chatham electrical shop.**

have been constructed and put in service in manufacturing operations that would not otherwise have been available without the mill's own sheet metal working facilities.

**Departmental Maintenance.** Each manufacturing department has its own specialized maintenance organization to care for the particular type of maintenance required within the department. These departmental units have the services of the central maintenance department available at all times for work they are not equipped to handle.

**Wool Scouring Department.** Wool receives its first treatment in the wool scouring department. The equipment involved here is relatively simple and does not constitute a complex maintenance problem. There are openers, bale presses, scouring machines, carbonizing machines, and neutralizing machines to be kept in repair. The openers must be inspected regularly and broken or worn teeth replaced in the cylinders. Moving parts must be kept well lubricated.

Bale presses require very little attention beyond the occasional replacement of broken chains, which can be done in little time.

The scouring, carbonizing, and neutralizing machines are operated on a 24-hour day and require regular inspections. Mechanical failures are repaired at the time of break down. Aprons and false bottoms are replaced as needed during week-ends when the machinery is not operating.

Work in this department is done by a fixer on each shift, with assistance from the maintenance department when necessary.

**Raw Stock Dyeing.** Machines to be maintained in this department are cotton cleaners, balers, trucks in the wool room unit, rag pickers, garnett machines and fiber shredders in the waste processing unit, raw stock dyeing machines, beam dyeing machines, squeeze rolls, and dryers in the dye house unit of this plant.

Maintenance of this machinery is taken care of by two mechanics working on the day shift; they inspect regularly and carefully in what is largely a preventive maintenance system. Routine maintenance work such as grinding rag picker clothing and garnett machine clothing is, whenever possible, scheduled for such time as the machinery involved can be spared from production.

**Pickers.** Fearnaught blending pickers are used. One mechanic is used for all three shifts. This man inspects pickers, lubricates, and does light repairs, calling on the main machine shop when major repairs are needed.

This mechanic works on the first shift but is subject to a special call on the other two shifts. Wool pickers will run during these shifts without a mechanic except in unusual cases when it is necessary to call one for a special job. This mechanic also clothes the pickers.

**Cards.** The wool is conveyed from the picker room to the card room pneumatically. The cards are 3-cylinder 60 x 60 woolen cards with tape condensers.

Two grinders on each shift take care of grinding on 58 cards. These men also clean metallic clothing on cards and assist on major break downs.

**Painting is recognized as important phase of maintenance at Chatham. Here a painter works on truck.**

There is a master mechanic for the three shifts of cards and a head fixer for each shift. There is also a fixer to each 11 sets of cards. These fixers take care of all general repairs, settings, reclothing, and speed changes. These fixers have supervision over the lubrication. Each card tender oils his own machines under the supervision of the fixer.

**Stripping.** There are two crews of strippers. The amount of stripping required varies according to the type of stock being run. The cards are run from 8 to 18 hours between strippings.

**Spinning.** This plant is equipped for both mule and ring spinning. There is a head fixer on each shift in charge of ring spinning maintenance, with a fixer for each section of 18 ring frames under his supervision.

There is a crew of two overhauling mechanics who work on a definite schedule, overhauling one frame at the time as laid out for them by the head fixer. They also line, level, and plumb spindles at least once a year on each frame.

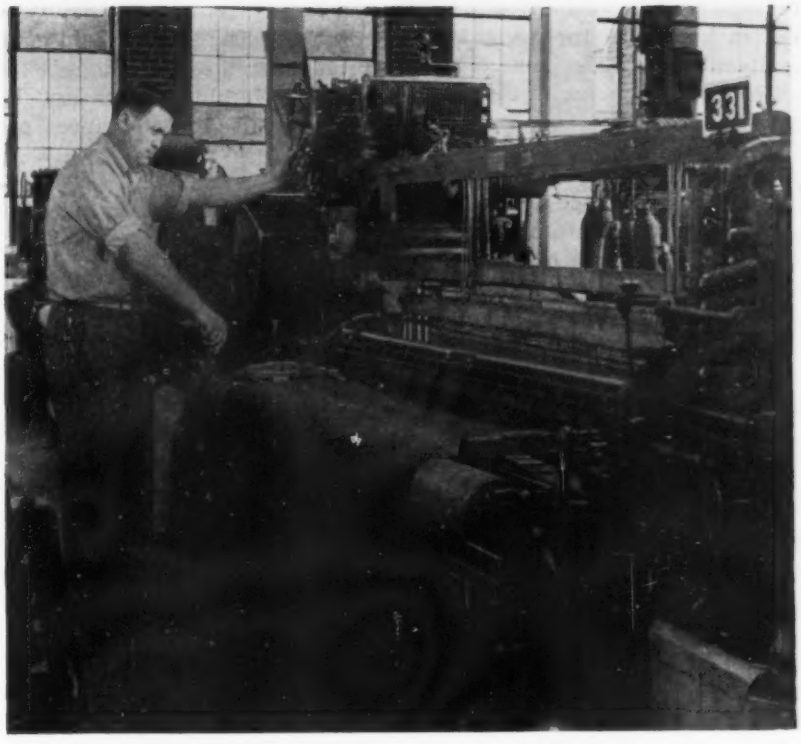
**Mule Spinning.** There is one head fixer in charge of mule spinning maintenance, with one fixer on each shift under his overall supervision. Whenever a mule needs a general overhaul, it is done by the shift fixers under the supervision of the head fixer; the shift fixers look after general minor repairs each day, along with lubrication.

Shift fixers line, level, and plumb mule spindles at least once each 18 months.

**Winders and Warpers.** One man on each shift looks after the maintenance of winders, warpers, harness, and reeds. There is not much difficult repair and maintenance on the winders and warpers; they are kept well lubricated and preventive maintenance eliminates major breakdowns.

This mechanic inspects harness and reeds that come back from the looms, replacing and repairing parts on harness and repairing dents in reeds.

**Tie-In Department.** One specialist does all repair work on the three portable tie-in machines in this department.




**The head loomfixer checks a loom after the maintenance men have completed their jobs. System in maintenance, coupled with adequate follow-up, is essential.**

**Weaving.** A head loomfixer has overall supervision of loom maintenance, with a shift fixer in charge on each shift directing the work of 14 section fixers on each shift.

The section fixer is responsible for all on-the-spot breakdowns, general repairs, and settings.

A small machine shop takes care of minor shop work in this department; one man operates this small shop on each shift. Jobs usually handled are broken shafts, main driving gears, etc. This man in the shop assists the loomfixer in removing such parts and carries them to the shop for repair. This shop also welds all broken loom parts that can be salvaged.

Section fixers overhaul their own looms with assistance from the shop when required. The head fixer is consulted on all major jobs and break downs, including overhauling of looms.

**Burling.** There are two Hermas blanket shearers through which the entire production of the weaving department passes for trimming of selvages. The big problem of maintenance on this machine is grinding blades and setting of clearances in relation to the cloth.

One mechanic does all grinding and setting on these machines during the day or first shift. Minor repairs, adjustments, and lubrication are done on the other shifts by a combination mechanic and operator.

Repair work on power perches, over which the cloth is passed for inspection, is performed by the daytime or first shift mechanic, with assistance from the main machine shop when such work is necessary.

**Shearers.** The shearers are the only machines in the cloth department that require much maintenance. This consists of grinding the fly blades to an extremely sharp edge. These blades must be continually oiled by swabbing in order to keep this cutting edge. Other maintenance on this machine is limited and no difficulties are outstanding.

**Rotary Presses.** The only maintenance problem on the rotary

presses consists of lubricating the bearings due to the weight and temperature at this point. This is an ironing process with high pressure steam.

**Decating Machine.** The decating machine maintenance problem consists mostly of the steam valves, the winding system of gears, and one motor. The routine checkage for mechanical defects takes care of these points. However, the cylinder must be draw-filed once every six months in order to keep the edge on it, otherwise it will get too dull to draw the cloth.

**Bale Press and Measuring Machine.** The bale press and winding or measuring machines offer no maintenance problems. It is very seldom that a breakdown or replacement of parts becomes necessary, and when this does happen, the regular mechanic does the work.

**Wet Finishing.** The machines in this department consist of fulling mills, Dolly washers, continuous washing machines, scutchers, hydraulic squeeze rolls, tenter dryers, piece-dye machines, and a carbonizing machine. In addition, there are teasel gigs and wet brushes.

The major maintenance item in this department occurs on the dryers and fulling mills. The dryers have to be cleaned thoroughly weekly. Fulling mills require roll dressing about every two weeks. This consists of turning down on the surface with a special tool. The roll is not removed from the fulling mill in order to do this.

Dolly washers, continuous washers, scutchers, piece-dye machines, and squeeze rolls do not require anything other than routine maintenance and lubrication.

One master mechanic is in charge of all three shifts, and he supervises any major repair work. There are also two mechanics on each shift who do the actual mechanical work.

Two men on the first shift clean the dryers in rotation, starting over again when the last machine is completed.

**Napping.** There are 27 napping machines (from 24-36 rolls to each machine). The largest maintenance problem on these machines is keeping the clothing sharp enough to nap and keeping clearances properly set.

One head mechanic checks machines and supervises grinding of clothing and setting of clearances; the crew consists of two men who do the grinding and setting.

One-third of a set of ground rolls is kept extra on each type machine, and when it is necessary to grind a set that is in use, this extra one-third set is slipped in place of the one-third that is removed for grinding. This change requires only 20 minutes and eliminates the stopping of machines during the entire grinding operation.

Napping rolls will run according to the weight and finish of the blankets that are processed on them. The machines that need grinding are selected by observation, and the grinders begin work on those that have been assigned.

The grinders are kept busy all of the time. This crew gauges clearances at the time rolls are put in place. The same crew does oiling and general repair work on the nappers.

**Binding.** The maintenance problem in the binding department is in the upkeep of sewing machines. These machines are used for sewing on a ribbon binding on the cut end of blankets. The usual problems are timing of machines, replacing broken needles, and lubrication. A mechanism known as a folding guide, which is made in the shop, is used to guide the ribbon and blanket edge on the sewing machine.

There is one head machine fixer on both shifts; there are two men on each shift under this head fixer. They make minor repairs and adjustments with the machines on the line. When a major repair is necessary, the machine is pulled from the line and a spare put in its place.

# Industrial Describes Maintenance Schedule

THE MAINTENANCE program at the Industrial Cotton Mills Company, Inc., located at Rock Hill, S. C., is described by the management during an interview as follows:

### Carding

We have Whitin blending machines in our opening room. There is very little upkeep that is necessary on these machines. We grease the ball bearings once every three months. The machines are thoroughly cleaned once a day, and we check the aprons once a week, replacing all missing spikes and straightening those out of line.

It is necessary to oil the main bearings once every eight hours. We clean out the cage sections once a week in order to prevent too great an accumulation of lint, which would interfere with the circulation of air from the fans.

Motes and fly are cleaned out once each 8 hours. We get much better cleaning with the new Whitin blender.

### Pickers

We have one-process pickers. These pickers are overhauled completely every twelve months, during which time we go over them, putting on new gears where they are worn, new spikes in aprons where worn, etc. We also put in new cages where needed. Once a week we check over the leathers around screens, bearings, and beaters, noting if the latter should be turned around or lagging replaced on them.

We clean out calender roll bearings once every three months. We have return air condensers on the pickers; the sand pipes are cleaned out each week. There is not much operating difficulty in connection with these condensers.

The evener motions on our pick-

ers are cleaned once every eight hours in order to maintain proper lap weight. We grease the ball bearings once each month, and regular oilers grease the main bearings every eight hours. We clean out all sand boxes every week on the pickers. Aprons are inspected once a week for defects.

We have the Whitin Rakehead distributor for pickers. The pan pipe is kept properly lubricated, and the knock-off motion is properly adjusted. If this is done correctly, there will not be any difficulty in keeping it in operation.

### Cards

Our cards are stripped once every four hours (16 oz. lap, 63-grain sliver, draft of 111). Our cards are ground about every 20 days; during that time the grinder checks the cards for worn out parts and lubricates them.

The overseer checks the card thoroughly for settings before it is started up after grinding.

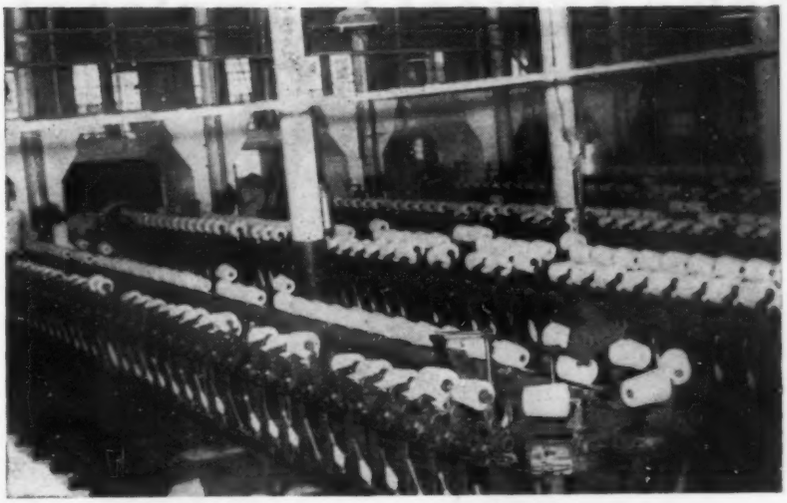
We clean out fly waste under cards every eight hours. Flats are ground along with the cylinder and doffer. During the last three years we have clothed 60 cylinders out of a total of 175 cards. At the present time, our card clothing is in fair condition. Our cards are kept clean by fanning and mopping off completely twice a day.

### Drawing

Our drawing is cleaned twice a day and oiled once every eight hours. Drawing rolls are oiled every other day. We have single-process drawing, 6 ends up. Drawing rolls are taken out and cleaned once a week. These are metallic rolls and have oil-impregnated bearings. The section man on these drawing frames also fixes roving frames. The coiler heads are removed once a week, cleaned, oiled, and checked for worn parts. The turn table is oiled once a day.

### Roving Frames

We have single-process long draft roving with 76 spindles per frame. We overhaul our roving frames completely once a year. We have the cork-synthetic roll covers and buff them every 4 months. We level, line, remove all worn parts, and align spindles. We oil our steps every other week. A general oiling is given each frame every eight hours. We clean our carriages every three months.



**Battery of automatic winders at Industrial Cotton Mills.**

### Spinning

Spinning frames are kept well lubricated. We check our spinning frames at regular intervals for worn gears and other parts. By checking the frames occasionally, it is possible to catch things before they cause a breakdown.

We overhaul our frames, level and line them, put in new lifter rods, bushings where needed, and plumb spindles about every 18 months, running two shifts. This should be done every 12 months when running three shifts on our type of work (denims).

Long draft Casablancas spinning is cleaned thoroughly every six months. Rolls are scoured once a year. A special crew is used to clean the Casablancas. We lubricate the fast moving parts every eight hours.

The Abbott automatic winder is also under the maintenance of the spinning department. The main thing about this machine is plenty of good lubrication, keeping a good fixer present for making adjustments promptly, plus a good air cleaning system.

The ball warpers are also maintained by the spinning department in our plant. We check the ball warpers at regular intervals for worn parts; however, we keep our ball warpers well lubricated and little maintenance is required.

We do not have much difficulty with the maintenance of beamers. The friction pads wear out fairly often and they are replaced promptly. We check the few gears on this machine for wear and replace them where this is found. The gears are kept well oiled.

Our most troublesome item on slashers is the size box bearings. We inspect the slashers regularly for worn parts and replace those that are beginning to give trouble due to wear. We do not have to replace many frictions; however, we replace them as needed.

### Weaving

We have 1257 looms of 30, 32, and 40-inch width. We use the loom manufacturer's parts exclusively and have gauges with which to set the new parts. We have a head loomfixer and two feeler specialists. We do not do much welding, mostly small parts. If a part breaks on a loom, we replace it. However, we might do some welding in the future on crankshafts.

Each fixer in our plant does his own overhauling, with the assistance of the head loomfixer and feeler men. This assistance is mainly help on crank shafts, cam shafts, and other heavy jobs.

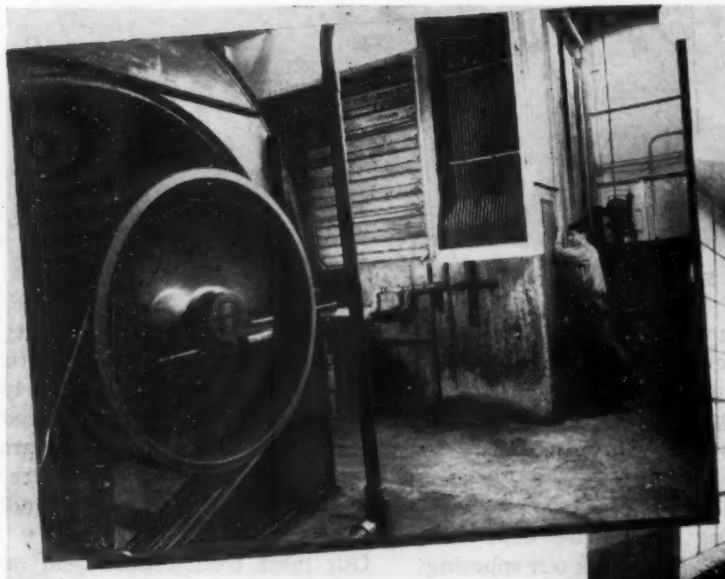
These fixers maintain their looms in running condition and also do their own warping.

We have two regular oilers and two people who oil looms throughout when a warp runs out. The

(*Continued on page* 137)

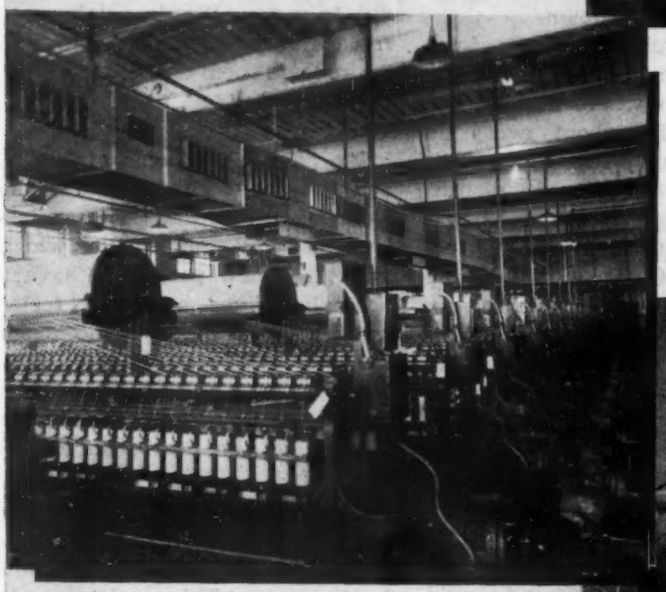
## Some Typical Examples of

# Plant Modernization



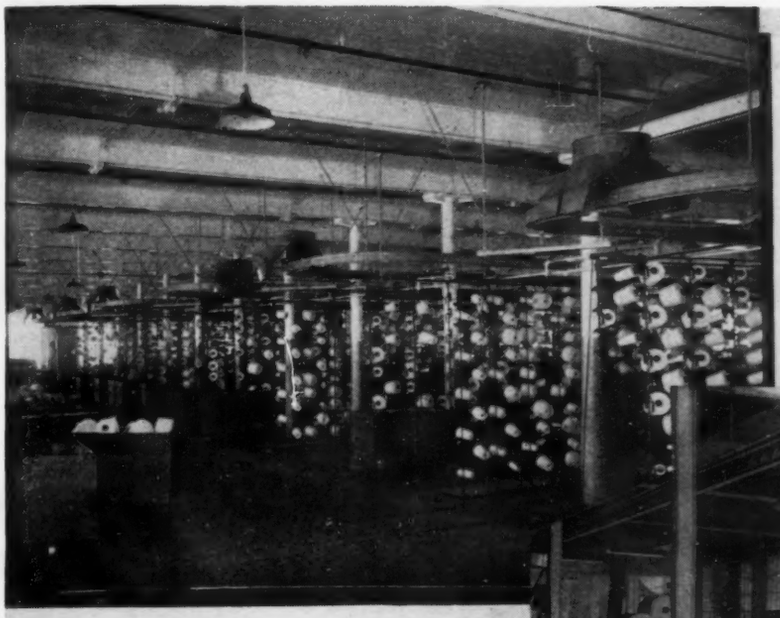
Left: Apparatus room in a large mill, showing part of central station air conditioning system. Fan at left; heaters and automatic dampers in center; spray type air conditioner extends off to rear of picture. Courtesy, Carrier Corp.

Right: An installation of Blue Ridge Frosted Aklo glass in the Shelby (N. C.) Cotton Mills.

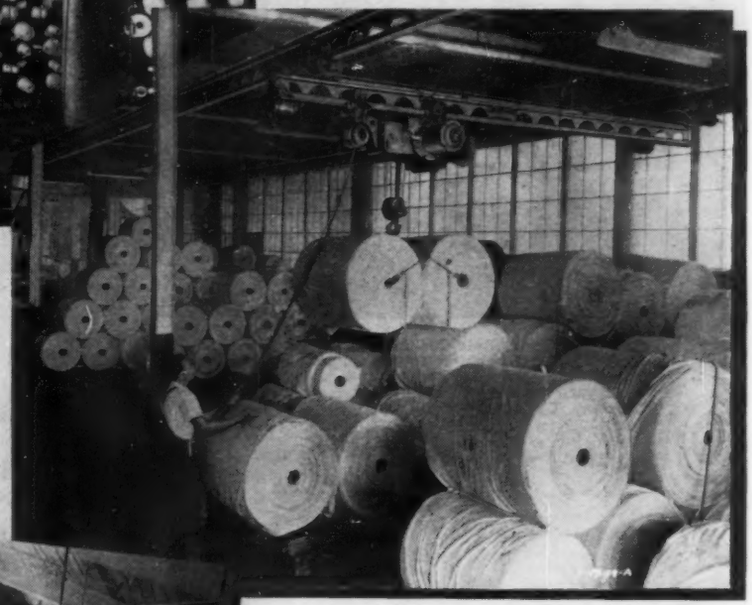


Left: Certified climate is said to make for health, contentment, and better products at a southern mill. Courtesy, Parks-Cramer Company.

Right: Controlled draft drawing system at Indianapolis Bleaching Co. Conveyor system takes laps from lap winder on one floor and delivers them to line of drawing frames on lower floor. Courtesy, Saco-Lowell Shops.

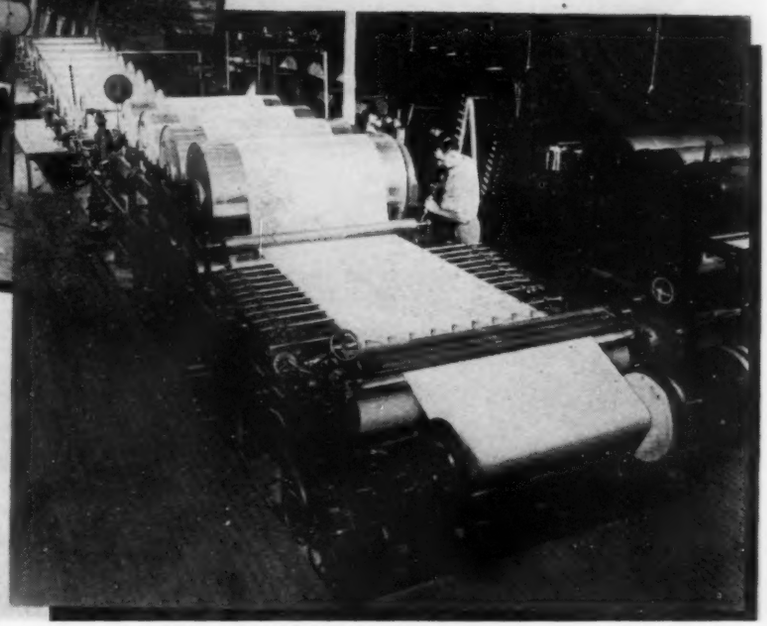


Left: Installation of Turbo traveling cleaners over warpers and creels at Continental Mills, Lewiston, Maine. Eliminates bunches by preventing lint accumulations on yarn, packages, etc. Courtesy, Parks-Cramer Co.



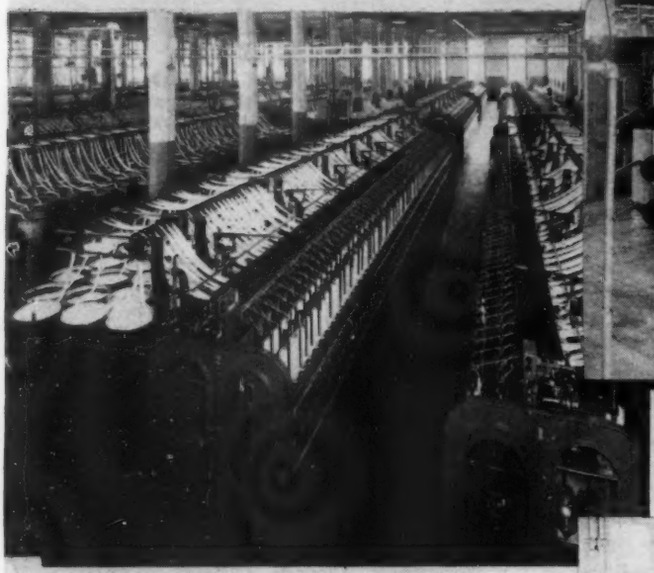
Right: Heavy rolls of cloth are handled by overhead hoist and rail. Control of equipment is by push-button box. Courtesy, Cleveland Crane & Engineering Co.

Left: Overhead material handling units make loading of slashers easier and quicker. Note system of overhead tracks. Courtesy, American MonoRail Co.



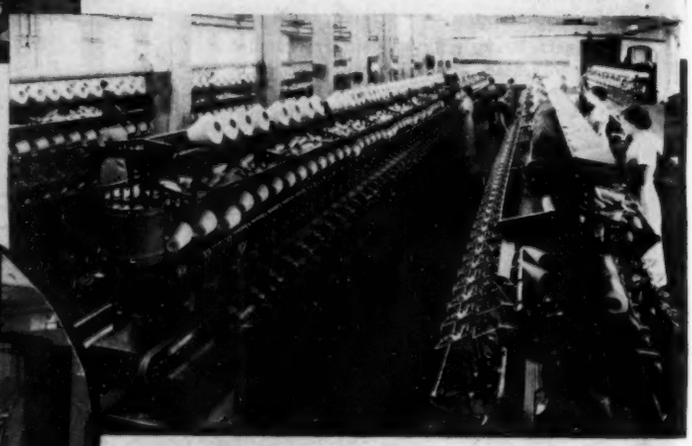
Right: Rayon warp sizer in prominent mill. Note cleanliness of room. Courtesy. Charles B. Johnson Machine Works.

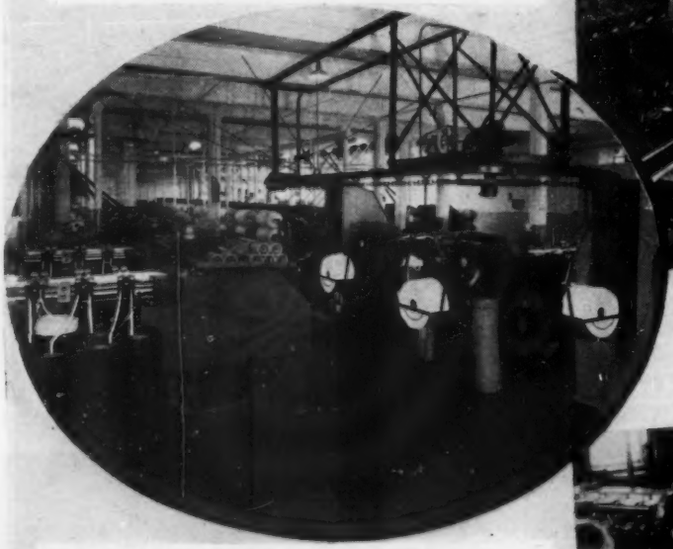
Right: Novel mounting of Turbomatic humidifiers in woolen card room of Barbour Mills, Brockton, Mass. Atomizers located at posts, piped from beneath floor. Courtesy, Parks-Cramer Co.



Left: J-S controlled draft system of roving. Wide alleys and abundant light. Courtesy, Saco-Lowell Shops.

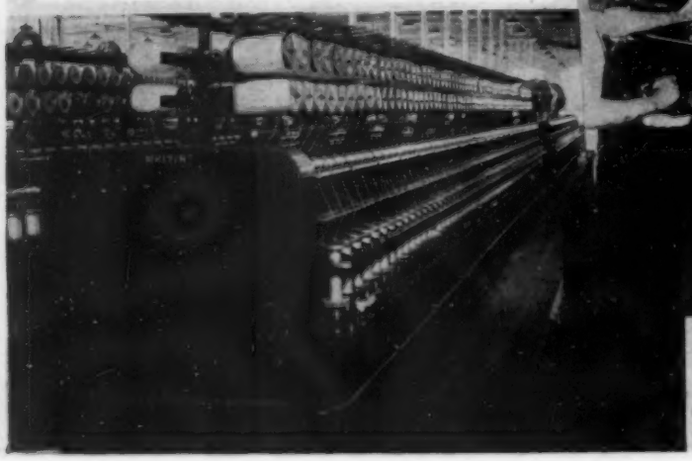
Right: No. 50A Roto-Coners winding grey yarn from spinning bobbins to knitting cones, dye tubes from spinning bobbins, and cones of dyed yarn from dye tubes, all on same machine. Courtesy, Universal Winding Co.





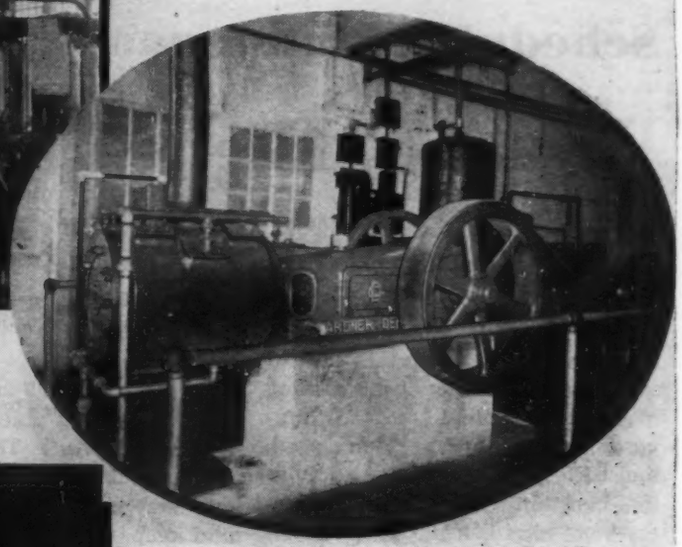
Left: Lap winders at Indianapolis Bleaching Company. Note automatic conveying equipment. Saco Lowell Shops.

Right: Bi-coil drawing, Verney Mill, Manchester, N. H. Courtesy, Whitin Machine Works.



Left: Model BB twister installation, Firestone Cotton Mills, Gastonia, N. C. Courtesy, Whitin Machine Works.

Left: An installation of Model F-2 spinning at Stanley Mills, Inc. Note fluorescent lighting arrangement. Courtesy, Whitin Machine Works.



Right: RX single stage air compressor furnishing air to 156 self-cleaning atomizer heads. Atomizer heads evaporate 1872 pounds of water per hour, serving 480,400 cubic feet. Courtesy, Gardner-Denver Co.

Left: Automatic self-cleaning atomizers and AMCO control stations at White Oak Cotton Mills, Greensboro, N. C. Courtesy, American Moistening Co.

Right: Automatic airchanger equipment with Turbomatic self-cleaning atomizers. Note Turbo traveling cleaner equipment. Courtesy, Parks-Cramer Co.

Below: Whitin-Schweiter automatic filling bobbin winder at Verney Mill, Manchester, N. H. Courtesy, Whitin Mch. Works.

Above: 48-inch brushing and shearing unit, including sewing and feeding machine with 3-tier scray, roller cradle let-off. (8-roll brusher, 4-knife Model AV shear). Courtesy, Hermas Machine Co.

*Finishing Plant*

# Scheduled Maintenance for Dyeing, Bleaching, and Finishing

**By W. R. WANDS**
**The Erwin Cotton Mills Company, Cooleemee, North Carolina.**

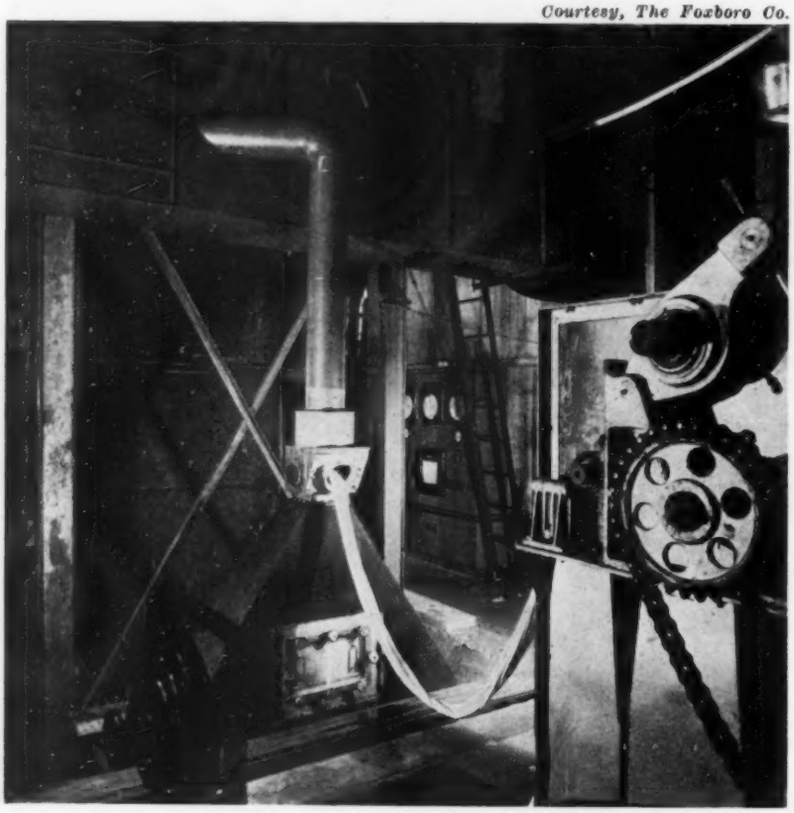
MAINTENANCE of textile finishing machinery is of vital importance at all times, but especially is it important in this day of scarce parts and supplies. Finishing machinery is subject to the unfavorable conditions of high speed, moisture, and chemicals, and unless constant vigilance of machinery is established, breakdowns with subsequent loss of production, delayed delivery dates, and seconds are the inevitable results. A well-planned schedule of maintenance and lubrication that is adhered to is the best insurance against these breakdowns.

All goods are brought to the grey room to start through the various processes. Each cut of goods is sewed together. The sewing machine is lubricated with an oil drip cup that is kept full at all times, and keeps the high speed mechanism under a constant film of oil.

The machine is blown off each morning to get rid of all accumulated lint from the previous day's work. Every three months the machine is dismantled completely and every part cleaned, and if necessary replaced. A complete set of parts is kept in stock at all times.

**Rope-type bleach range equipped with recording instruments. Shown are temperature controller for J-box; pneumatic loading controller for squeeze rolls before and after the saturator; and liquid level controller for the saturator.**

*Courtesy, The Foxboro Co.*



### Bleach House

All goods are processed in the bleach house in rope form with the various conventional rope washers and squeezers. The desizer is an ordinary squeezer set over a pit containing the desizing solution. It has a rubber top roll and a brass bottom roll; these are examined before every bin of goods is run to be sure that objects that could damage the goods have not become imbedded in the rubber roll. The bearings were ordinary cast iron with an oil ring, but we had a great deal of trouble so a brass bushing was pressed in and fitted for pressure greasing. This machine is greased every Monday morning.

The counter weights are raised after every bin of cloth has been run to keep from flattening the rubber roll. This roll, after a period of time, becomes grooved where the strand of cloth runs, and it is then removed for grinding and a spare roll is installed. By having a spare roll, machine out of service time is reduced to a minimum.

### Washers

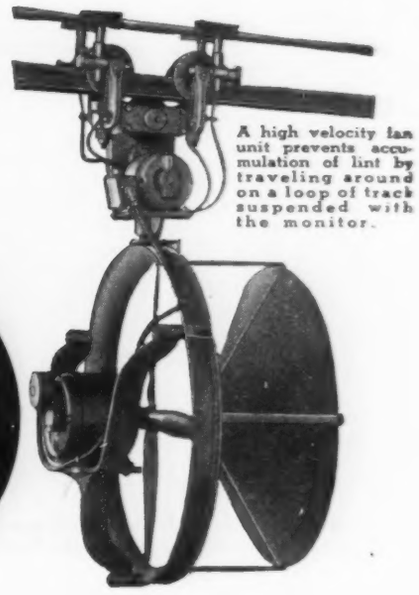
The various washers are of regular tight rope with squeezers attached. These washers have a wooden pit roll, a wooden drive roll, and a wooden rider roll. The pit roll with treated wood bearings caused trouble so we had a carbon bearing made and this trouble was eliminated.

The drive roll bearings were regular ring bearings supporting the roll at three points, and, consequently, if one burned out, the steel shaft would break. Ball bearings were installed and by

AMERICAN MONORAIL

# Automatic Monitor Cleaner

## LOWER COSTS *with* MONITOR CLEANERS



A high velocity fan unit prevents accumulation of lint by traveling around on a loop of track suspended with the monitor.

To eliminate trouble and expense of cleaning the monitor in mills of this particular construction, an automatic traveling fan unit replaces broom, mop and air hose.

At regular intervals, a blast of air is diffused in all directions, preventing accumulation of lint on structural members within the monitor. The cleaning interval is determined by conditions of mill-operation and unit can be adjusted accordingly.

American MonoRail Monitor Cleaner consists of a standard ¼ h.p. MonoTractor for driving unit around loop of track suspended within the structure. Blast of air is obtained from a propeller type fan with special conical diffuser mounted in steel frame.

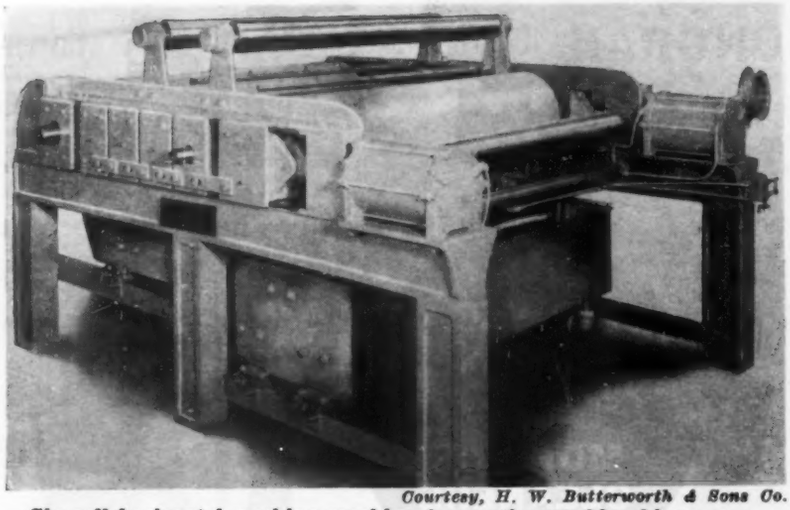
For increased production and lower cleaning costs, talk to your American MonoRail Engineer.

## *Advantages—*

1. Prevents accumulation of lint in the monitor.
2. Eliminates cost of cleaning with broom or air hose.
3. Improves quality of yarn processed beneath monitor.
4. Eliminates danger of accident with hand cleaning.
5. Tends to distribute humidity evenly over work below.
6. Helps ventilation during warm months.
7. Prevents dead warm air pocket in cold months.
8. Assures full production during cleaning.

THE AMERICAN **MONORAIL** COMPANY

13106 ATHENS AVENUE — CLEVELAND 7, OHIO



*Courtesy, H. W. Butterworth & Sons Co.*

**Six-roll horizontal washing machine for continuous bleaching range. Accurate control of the rolls is through use of air pressure.**

greasing every three weeks we have had no trouble.

The pit is examined once a week for any loose objects such as nuts or bolts, that by falling out would get in cloth and damage it.

### Kiers

The kiers are examined once a week and when necessary are painted with a mixture of ordinary cement and anti-hydro cement. All pumps and valves are examined each time the kier is under pressure, and any repairs necessary are noted and done when the kier is being unloaded and loaded. A spare pump is kept in constant repair so that it can be installed in a very short time.

After bleaching we sour with $SO_2$ gas. We had trouble from suck backs which ruined the rotometer until we installed vacuum break valves between the sour pit and rotometer.

We are replacing conventional ceramic pot eyes with stainless steel pot eyes and find them very satisfactory.

All bins are of concrete. We tried painting them with the same cement dressing used in kiers but were not too successful. By lining the bins with cloth and replacing cloth when necessary, we have very little trouble.

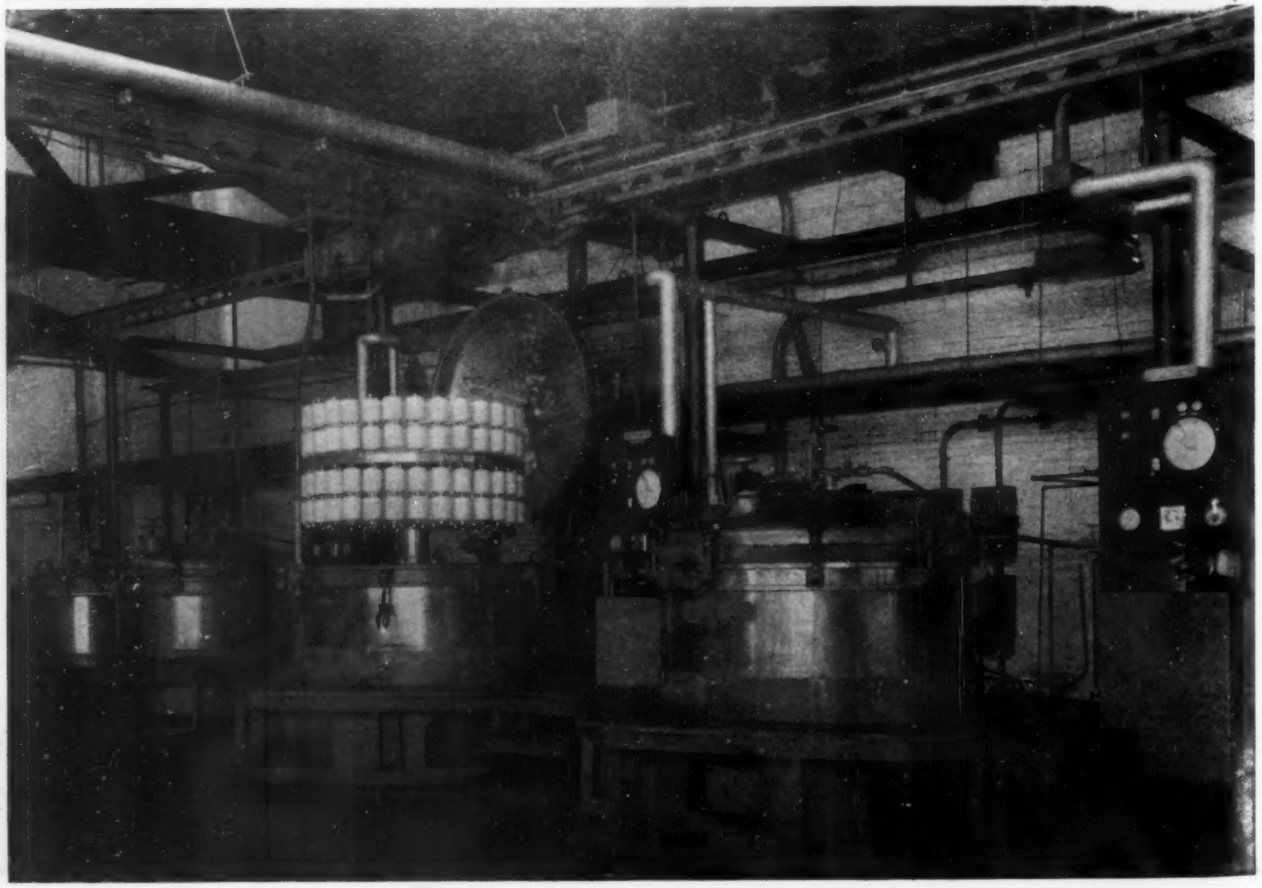
All overhead shafting bearings are oiled every six months.

### Mangle

The cloth from bins runs through a scutcher to open the cloth, then through a mangle consisting of two rubber rolls with a brass roll between them, on to a small set of dry cans where cloth is partially dried, then through a set of rolls consisting of a rubber top roll and a brass bottom roll where the various finishes are applied, then on to a set of dry cans and completely dried.

**Installation of package dyeing equipment with automatic controls and instrument panels.**

*Courtesy, Smith, Drum & Co.*



# True then . . . still true today

**"Lubricated-for-Life"**

● When, in 1927, New Departure first introduced the "lubricated - for - life" ball bearing, there was naturally a little skepticism on the part of the bearing users. It had never been done before!

But there were so many advantages to the user in the self-sealed ball bearing that it was not long before it "caught on."

Now, twenty years later, more than 110 million N-D-seal ball bearings have been used successfully. They are to be found wherever wheels or shafts turn.

The advantages are briefly:, Simplified assembly, the saving of many small parts, no maintenance expense, lubricant kept in — dirt is kept out.

Write for illustrated booklet "Sealed" and folder IB, showing latest types of self-sealed ball bearings, including those of standard single row width.

*Nothing Rolls Like a Ball*

**NEW DEPARTURE**

**BALL BEARINGS**

5488

NEW DEPARTURE • Division of GENERAL MOTORS • BRISTOL, CONN. • Branches in DETROIT, CHICAGO, LOS ANGELES and Other Principal Cities

*Courtesy, Van Vlaanderen Mch. Co.*

**Super structural heavy duty tenter frame.**

The rolls are equipped with roller bearings that are greased every four weeks. A spare rubber roll is kept ground at all times for this machine. This machine is driven by a variable speed drive, and the bearings are greased every three weeks. We have found that by greasing the discs every week and opening and closing the drive while doing so, in order to get the grease the whole length of the keys, sticking discs are eliminated.

The can bearings are cast iron, equipped with wick oil cups, and these are filled with grease every Monday morning.

### Open Width Bleaching

The goods are run through this process when they are to be dyed with vats, sulphur or naphthol dyes. The goods are brushed, singed, and desized in one operation. The brusher is cleaned out after each shift and the ball bearings on sand and brush rolls are greased every three weeks.

Carrying roll bearings on the singer are greased every week as they get very hot from the singeing flame. The rolls in the desizing box have carbon bearings, which are never greased, and the two rubber squeeze rolls have ball bearings, which are greased every three weeks. The whole machine is cleaned completely every week.

The goods are taken then and washed in a three compartment washer driven by a variable speed drive through a side shaft. All squeeze roll ball bearings on this machine are greased every three weeks; the gears driving rolls from side shaft run in oil. The variable speed drive is greased in the same way as the other variable speed drives.

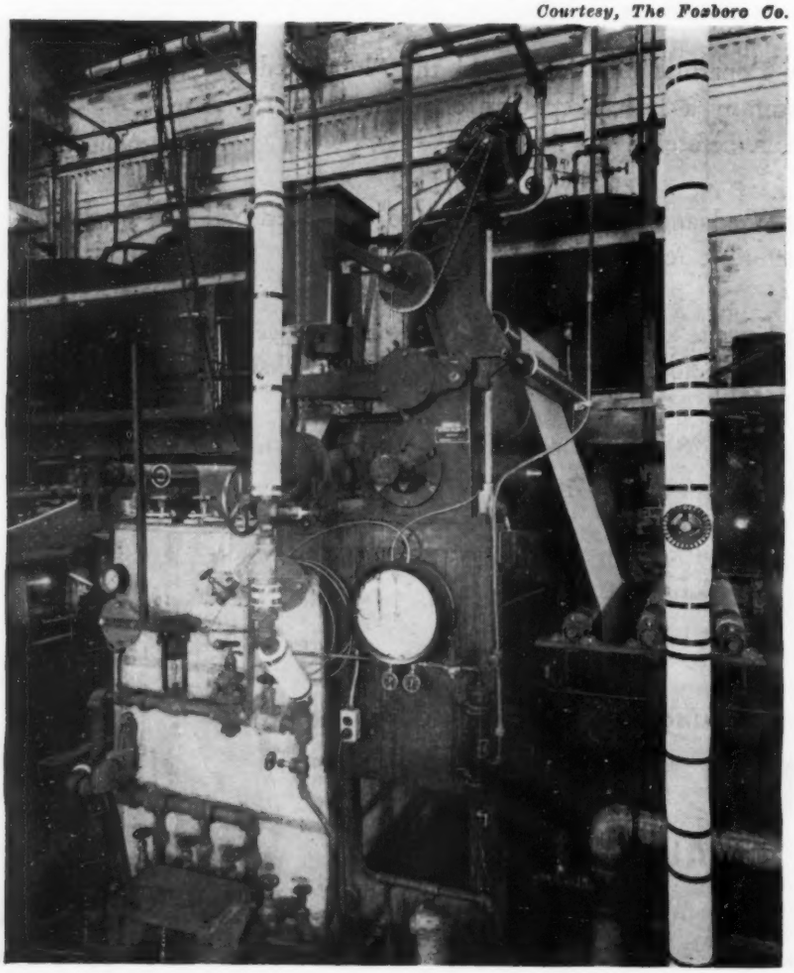
When, through wear, the rubber rolls need to be ground, all are taken out and ground to graduated sizes. This is necessary, as all run at the same speed and the stretch in the cloth is taken care of in this way.

Incidentally, the spray pipes at each set of rolls are installed close to the nip of the rolls to act as guards as well as spray pipes.

The cloth is then dried on a synchronized set of overhead cans. These cans are equipped with ball bearings and pressure joints. The bearings are greased once a week with high temperature grease. After greasing, all belts are thrown and the cans are turned over by hand to see that all bearings are operating smoothly. Gears on cans are greased.

**Williams continuous processing unit equipped with automatic temperature control. The recording controller measures the bath temperature; instrument operates a control valve in the steam line.**

*Courtesy, The Foxboro Co.*



### Mercerizer

The goods are mercerized on a frame mercerizer consisting of a three-roll caustic padder, 60-foot clip tenter frame, and a recuperator. The caustic padder rolls are equipped with roller bearings, which are greased every other day. The bushings and vertical shaft of the tenter are equipped with oil drip cups, that are kept full at all times.

The main drive shaft bearings are greased once a week. The recuperator top roll bearings are cast iron. Each bearing is fitted with an oil drip cup that is kept full. The operator, when filling oil drip cups, is constantly on the alert for cups that stay full, showing that the pipe from cup is stopped up and the bearing is in

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# BOWEN-HUNTER

*Manufactured*
*from*

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## BIRCH
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*IF IN URGENT NEED OF CARD ROOM BOBBINS*
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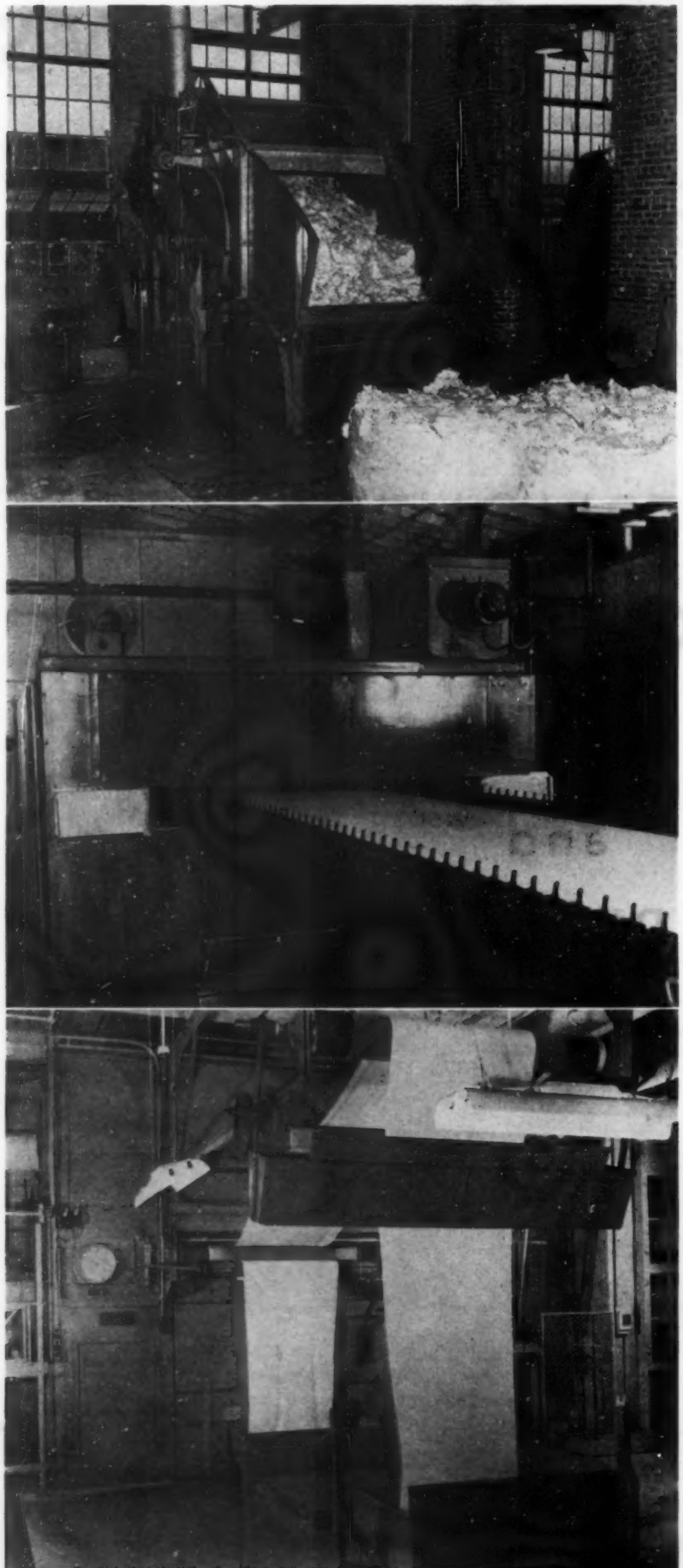
# BOWEN-HUNTER BOBBIN CO.

EAST CORINTH, VERMONT

*Southern Representatives:*
THE McLEOD COMPANIES, GREENSBORO, N. C., AND GREENVILLE, S. C.

*Courtesy, Proctor & Schwartz, Inc.*



**Top, a continuous extracting unit. It can be used for the extraction of excess moisture from cotton or wool stock before drying.**

**Center, the high-speed drying of cottons being applied to single run tenters.**

**Lower, suction cylinder dryer. Heart of the machine is a large perforated cylinder against which the cloth is held. Air flow in the dryer is through the cloth to the center of the cylinder, inside of which are adjustable discs to compensate for the width of the cloth. The discs are automatically adjusted from the outside to suit the width of the cloth, automatically forcing air to go through the cloth and not by-pass it.**

danger of burning out for want of oil.

The bottom cast iron bearings are not lubricated, but are taken off every three months for inspection. If worn, they are turned over and put back, and when this side wears, the bearing is replaced.

The ball bearings on recuperator squeeze rolls are greased every three weeks; rolls are ground when necessary.

The whole mercerizer range is cleaned thoroughly at the end of each week. The tenter chain on the mercerizer is inspected regularly, and when necessary, new pins and bushings are installed; when these wear, the whole chain is sent to the manufacturer for reconditioning. A new spare chain is kept in stock.

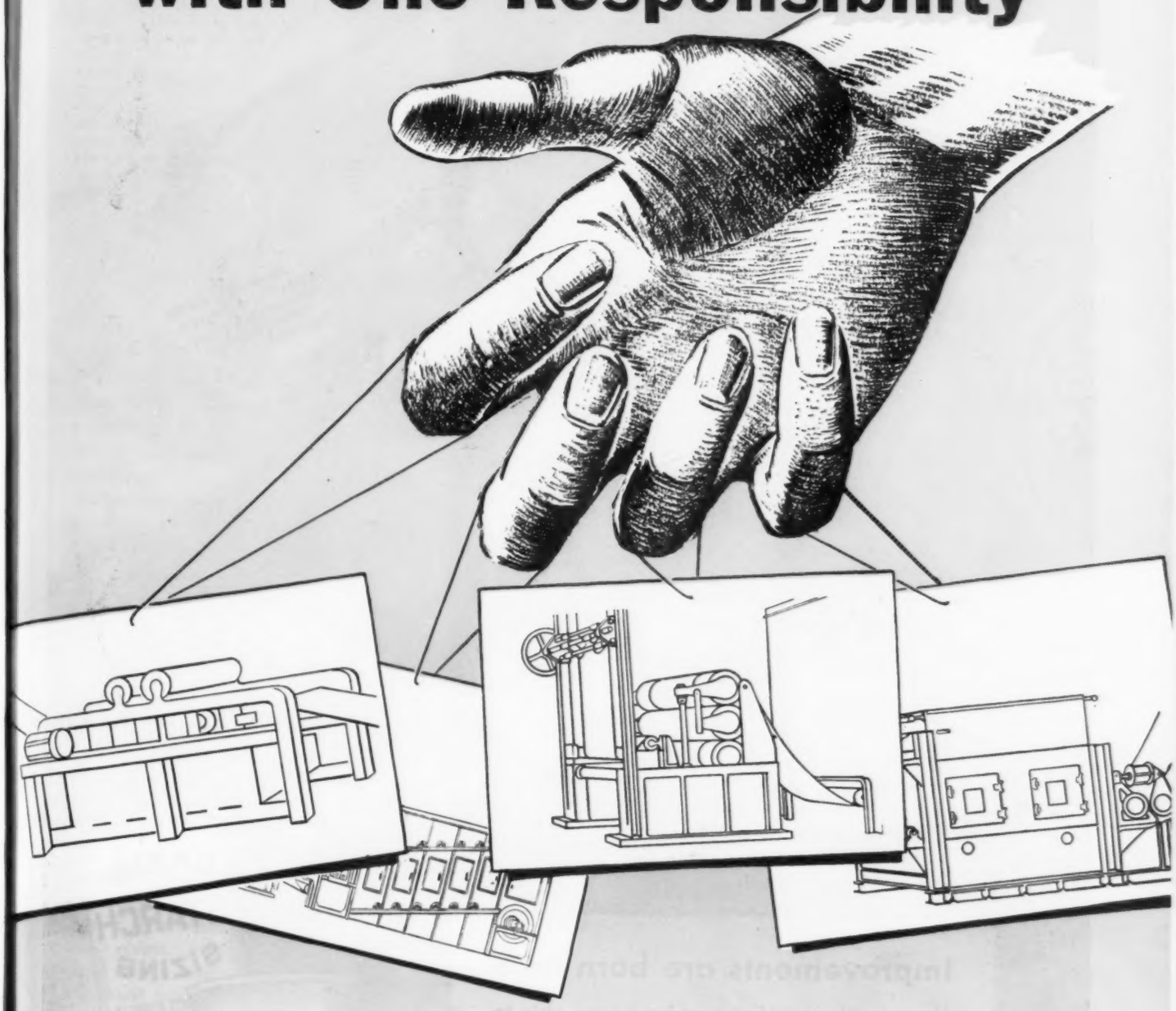
When the mercerizer was installed, the frame was equipped with steel top rails that were constantly wearing out; at the same time the clip tail pieces were worn out. After much experimenting with different types of top rails, we found that cast iron top rails lasted indefinitely.

### Continuous Jig

The continuous jig boil-off has eight rolls, each roll having a Babbitt bearing on each journal. These bearings are greased through pressure fitting every Monday morning. Each roll is driven with a roller chain; one roll driving the other from the motor drive. Replacement of the chain was reduced to a minimum by installing an oil trough, between rolls, through which the chain travels.

(*Continued on page* 154)

# Add 1 Machine or 10 with One Responsibility



Add a jig, add a pad. Set up a fast, modern continuous bleaching range. Or equip a complete bleaching, dyeing and finishing plant . . .

The mill that is standardized on Butterworth equipment gets coordinated results plus undivided responsibility for all of their machines in the wet end of textile finishing. Production is up and costs are down *or Butterworth knows the reason why.*

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Many textile manufacturers have been able to improve their product or process with the help of our textile laboratory at Greenville, S. C. Our experienced technicians are always happy to be of service on textile problems.

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# Manual Guides Maintenance at Seminole Mills

THE SEMINOLE MILLS, manufacturers of high-quality spun rayon fabrics, have a maintenance and modernization program in effect that will be a helpful pattern for other textile organizations to follow in setting up their own programs. Located at Clearwater, S. C., near Augusta, Ga., it is a spun rayon unit of United Merchants and Manufacturers, Inc.

**Organization Policy and Procedure.** All maintenance at Seminole Mills is guided by the "Departmental Bible," which contains not only maintenance and cleaning schedules, but all work loads, rates, and production standards for every process. This guide is distributed among all key men in the enterprise, including the general manager, plant manager, plant technical superintendent, department superintendents, overseers, shift foremen, and section men in every department.

By checking this organization procedure booklet, men in responsible key positions may know just when it is considered best to overhaul, clean, and lubricate machines under their jurisdiction. A condensed version of maintenance for spun rayon machinery as outlined in this interesting manual is given for the benefit of others in the industry.

**Blending-Picking.** The maintenance of pickers for processing rayon staple depends to a great extent on the number of machines in the plant. With three single-process pickers in a plant, one man can easily look after all lubrication, and repairs, both major and minor.

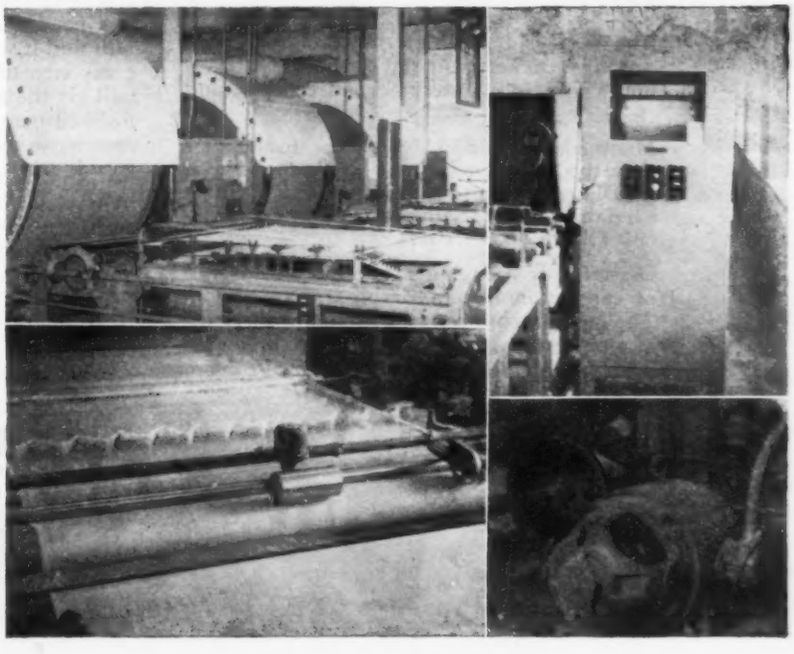
**Lubrication.** All fast moving parts and bearings should be oiled daily on each shift by the section man. All ball bearings should be checked on Monday of each week.

**Cleaning.** It is a good policy to clean one picker thoroughly each month and check for worn parts at the same time. This means if there is a battery of three pickers in the plant, it will then be possible to have all pickers cleaned from top to bottom once every three months. The section men should also check the pickers once on each shift for "chokes," which will result in the prevention of many serious breakdowns.

**Carding.** All carding maintenance and overhauling is handled by the card grinders. These card grinders also attend to all oiling of cards. A work load of 30 cards running spun rayon stock is assigned to each card grinder for grinding of cylinder, doffer, and flats, broken belts, and other minor repair jobs.

A running record is kept on all cards that are ground. This record shows the date ground, name of grinder, etc. The cards are ground in rotation. On medium and fine rayon goods the card grinders complete a grinding cycle once every 15 days.

**Reclothing of Cards.** One specific card grinder, who has experience in clothing of cards, is assigned the job of reclothing all cards on spun rayon for a mod-



**Photos of slasher moisture control installation. Upper left, battery of slashers running spun rayon; note automatic moisture control boards installed on right of each machine. Upper right, close-up of automatic moisture control board. Lower left, moisture contact roll which detects the amount of moisture in the yarn. Lower right, moisture control motor which drives the take-up or winding motion of the slasher. Speed of motor is governed by automatic control board as impulses are received from moisture contact roll, winding warps slower if excessive moisture is indicated and faster if dryness is detected.**

# It keeps you out of trouble

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The mariner depends on the light in the beacon tower to keep him out of trouble. It gives him a margin of safety beyond compass and chart.

Many bleachers and dyers have found that they, too, need a margin of safety; they find it in Diastafor brand de-sizing agents, which keep them out of trouble when they have difficult jobs to do.

Diastafor de-sizing agents are your assurance of easy, economical, trouble-free operation. The fact that they can be used in a wide range of temperatures and pH appeals to those who have to deal with unknown factors. "Problem lots" can be eliminated when you use Diastafor.

Diastafor de-sizing agents come in various types—among them you will find one to meet any need. Whichever type you choose, you will find it will give you superb performance every step of the way. Yard after yard, you will get the fine "hand" you look for in your finished goods. Try Diastafor for cottons, rayons, mixed goods — the results will be uniformly good.

Our sales and technical staffs will be glad to furnish further information regarding Diastafor brand de-sizing agents. A trial will show you why Diastafor has been the leader for 39 years. Write Strong Cobb Division of STANDARD BRANDS INCORPORATED, *Diastafor Department,* 595 Madison Avenue, New York 22, New York.

DIASTAFOR

A TRADE MARK OF STANDARD BRANDS INCORPORATED

erate-sized plant. This reclothing is done by using an electrical card clothing machine.

**Cleaning and Stripping.** All cleaning of cards except stripping is handled by the card tenders. This includes dusting off the cards, cleaning underneath and around sides.

Vacuum stripping is considered most satisfactory by the organization for spun rayon work. Cards on spun rayon should be stripped at least twice on each shift for good results.

**Drawing.** Drawing frames are maintained by the roving frame section man. If a plant has enough drawing frames for a full-time section, then it would be wise to assign all maintenance on these machines to one man on each shift.

Drawing rolls with oil-impregnated bearings give satisfactory service on spun rayon staple. In most cases the manufacturer's recommendations for oiling are followed, though in some instances it has been found helpful to supplement these recommendations by additional oiling.

**Cleaning and Scouring.** The drawing rolls are cleaned and scoured once a month by the oiler for drawing frames. Routine daily cleaning is handled by the drawing frame tender.

**Roving Frames.** All routine repairs and maintenance are handled by the regular section men. However, a special overhauling crew is used for special jobs, such as, leveling, lining, and general overhauling. This crew completes work on all frames at least once a year.

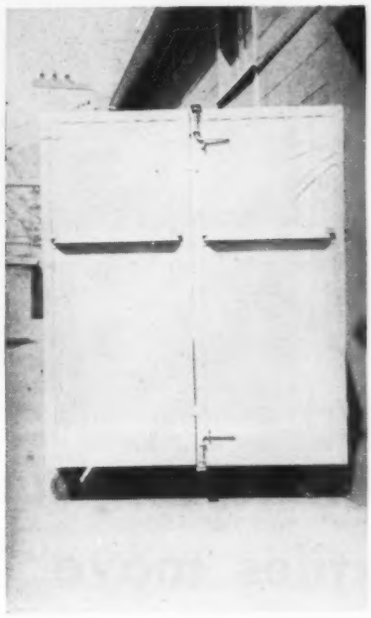
The number of roving processes for spun rayon depends on the grade and weight of fiber being run. Two processes are required for high-quality goods and one process for less critical types.

**Lubrication.** A special oiler is used on each shift for both roving and drawing frames. All fast-moving bearings are oiled once on each shift and all slow-moving parts are oiled once a week on Monday. Bobbin gears and spindle tops are oiled twice weekly. The steps on frames are oiled at the rate of three frames per day, in rotation.

**Spinning.** Section men handle general maintenance for routine repairs and settings. The special overhauling crew that looks after roving frames takes care of overhauling on spinning. However, a spun rayon plant with a large number of roving and spinning frames might find it advantageous to have an overhauling crew in each department.

This special crew overhauls each frame completely once a year, including leveling, lining, plumbing of spindles, and replacement of worn parts.

**Lubrication and Cleaning.** Lubrication of spinning frames is handled by oilers, who operate on a regular schedule. Loose pulleys, bearings, gear studs, and builder sections should be oiled on each shift. Steel roll necks should be oiled only once a day; *not once a day on each shift.* The top rolls, cylinder bearings, slow-moving oil bearings, and spindles should be oiled once a week.



**All-metal waste bin used at Seminole. Wheels are equipped with ball bearings and rubber tires.**

Cleaning is handled by the spinners, with the exception of overhead and other cleaning; this is assigned to specific persons.

**Spooling and Warping.** All maintenance on these machines is performed by the section man, who looks after Barber-Colman spooling and warping. Greasing and oiling on spoolers are handled by the section man. The chief maintenance on Barber-Colman warpers is the lubrication of bearings.

The daily oiling, preferably on the first shift, should include boxes, travelers, and traveler blowers. Drum and end bearings are oiled twice weekly. All grease bearings are checked weekly.

The section man checks moving parts once a week for normal repairs. A general overhauling is applied once every three months, which includes timing and setting, removal of worn parts, and a thorough cleaning.

**Slashing.** The maintenance for slashers is handled largely by the machine and electrical shops. This is due to the number of controlling, recording, and indicating instruments used in connection with the sizing operation.

The actual work on the controls is supervised by the departmental overseer, who is a graduate of the Brown Instrument Company's school of controls.

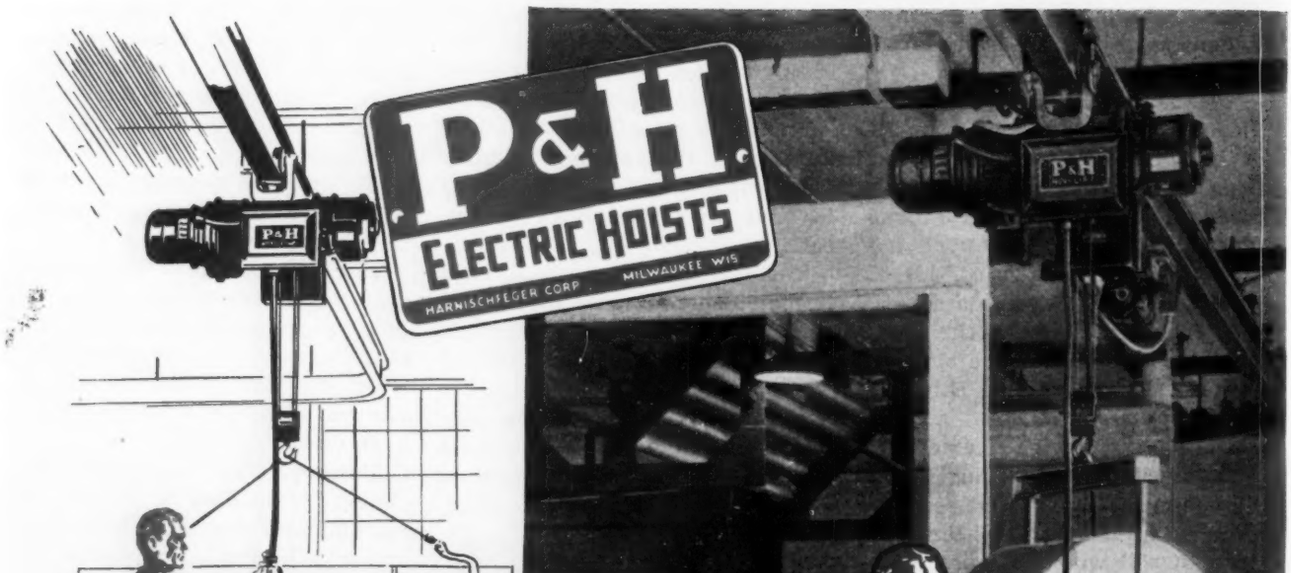
There is no difficulty in keeping slashers oiled. The cylinder bearings should be kept well lubricated. This also applies to bearings on the winding end of the slasher, including the slow-motion mechanism.

Slashers are cleaned and mopped after each set is completed. All ducts, size cookers, storage tanks, and size boxes are thoroughly cleaned weekly on the last shift that operates just before the week-end shutdown.

**Weaving.** All maintenance of weaving machinery at Seminole Mills is done by the loomfixers. No special overhauling crew is used. Draper XK, XD, X-2, and E-Models are used to run spun rayon.

Special jobs, such as broken crank shafts, head gears, cam shafts, etc., are attended to by the cooperation of loomfixers helping each other remove and replace such parts.

Special oilers are used in the weaving department. Pick balls, whiproll cams, and harness cams are oiled daily. Crank shafts, crank arms, cam shafts, clutch gears, pickballs, rockershaft bearings, parallel shoes, let-off springs, protection rods, take-up motions, and the slow-moving parts are

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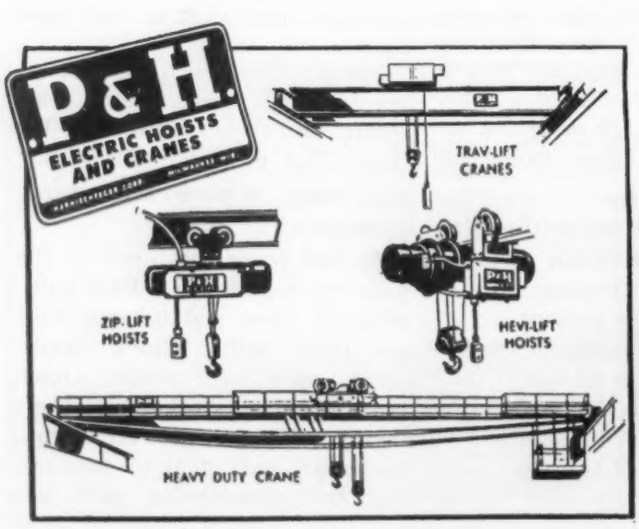
Around textile mills, no other form of handling does so much to speed production, save floor space. None is cleaner. And none is so adaptable to *all* textile operations. Many mills employ thru-the-air handling from the time materials enter the plant till the finished product leaves — and they save money with every move.

See how these savings apply to your plant. Talk it over with a P&H Hoist Engineer. If you wish further information, write us.

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**4644 W. National Ave., Milwaukee 14, Wisconsin**

oiled on a regular schedule.

When a warp runs out, all parts are greased and oiled. All loom motors are greased on the first and third Mondays in each month.

**Cleaning.** The cleaning schedule includes all filling fork racks on all shifts for the entire weaving department. Arches are cleaned once each week. Eight looms per day are cleaned by using solvents, such as kerosene.

The air conditioning system for weaving is cleaned weekly; this includes ducts, central stations, baffles and eliminators, water tanks, spray nozzles, and fans. The entire duct system is painted yearly.

**Cloth Room.** Maintenance for this department is handled by the first shift foreman. This includes all maintenance except controls on shearers, which are assigned to the electrical department due to the construction of machines.

Machines are given a daily cleaning, which includes removal of all strings, chokes, etc., that accumulate in shearing, inspection units, and folders. Oiling in this department is handled by the operators of the respective machines.

**Auxiliaries.** All fluorescent lighting reflectors are cleaned weekly by the respective departments. Maintenance on these lights is handled by the electrical department, with the exception of replacing burned-out tubes. If any one tube should continue to burn out excessively in succession, this particular light is turned over to the electric department for a thorough checking.

All machine and woodwork is handled in the machine and wood shop. This includes the making of gears, studs, welding (electric and acetylene). The shop also handles all belts (six inches or larger) that are broken. All large belts are checked, cleaned, and tightened weekly.

It is the general practice to make anything that will be in use for a number of years out of metal where practical. All waste bins are made of metal with ball bearing casters. This is to reduce maintenance and eliminate the hazard of fire, which is present when wooden bins are used.

All sprinkler valves are checked weekly by pipe fitters; the pipe fitters are in turn checked periodically to see that all valves are kept open. All sprinkler lines are so arranged that they can be flushed with a minimum amount of time and effort, and this operation is carried out every three months.

When replacing platforms and floors on the first story, concrete is used to reduce future maintenance.

All humidity except the weaving department is looked after by employees under the master mechanic. This official also is responsible for maintenance of the steam and heating system.

In all departments where it is known that air conditioning will not be applied, steel sash is being used to replace wooden sash.

A loud speaker system is used for broadcasting music and announcements throughout the plant; it is maintained by the manufacturer.

All elevators are also maintained on contract with the manufacturer.

The main mill roofs are 20-year bonds and are maintained by the manufacturer.

A roll covering shop is operated to cover all top rolls, both leather and synthetic, in the carding and spinning departments.

Lawns around office and plant, including shrubbery, are kept well trimmed and neat by power-driven machinery. Seminole Mills maintain this "maintenance program" on a basis that is just as efficient as that applied to productive machinery.

**Modernization Program.** The modernization completed during the past year consists of a modernized slasher room. Three spun rayon slashers have been installed with the latest automatic controls. This includes automatic size feed and moisture control.

A program is already outlined for installing 17 new revolving flat cards, 22 roller top cards, two additional lines of pickers, and replacement of all existing roving frames with twelve 10 x 5 and fourteen 8 x 4 frames. The spinning room will receive 164 new frames to replace 107 old frames, plus 30 new twisters, three automatic winders of 100 spindles each, and four filling winders.

All E Model looms in the plant are to be replaced with 238 new Draper looms ranging in width from 46 to 64 inches.

**Safety and Health Maintenance.** The maintenance of employee health is attended to by a full time registered nurse. During winter the cold preventive medicine is used, which reduces absenteeism due to this ailment.

Safety of employees is maintained by a very active safety program. A general safety meeting is held monthly. All overseers, the superintendents, and manager attend.

There are also departmental safety meetings held monthly. The membership of the group is composed of overseers, shift foremen, and one production employee from each shift. All accidents that have occurred during the past month and methods of preventing future mishaps are discussed.

## Rayon Production To Increase

By the end of 1948, the American rayon yarn and staple producing industry will have increased its capacity to well over 1,100,000,000 pounds annually, showing a 26 per cent rise over current plant capacity, according to a survey in the *Rayon Organon*, the monthly statistical review of the Textile Economics Bureau, Inc. The industry's capacity by the fourth quarter of 1948 is expected to total 1,120,000,000 pounds annually as against the present operating capacity of 891,000,000 pounds.

The increased production of rayon will come from extension and remodeling of existing plant equipment and new rayon plants to be built.

Acetate staple will show the largest percentage increase in the next two years. The present capacity of 42,000,000 pounds will be almost tripled in an anticipated output of 123,000,000 pounds by the end of 1948. Viscose staple output will show an increase of 27 per cent over current capacity of 139,000,000 pounds to 177,000,000 pounds. Acetate yarn production will increase by 41%.

## *Change to Paper Tube Spinning This New Low Cost Way*

### *Get up to*

# 40% MORE YARN PER BOBBIN

*Illustration shows the larger warp package produced by paper-tube spinning on the Joanna Aluminum Spindle Adapter compared with the conventional package.*

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WITH the New Joanna Aluminum Adapter, your spindles can be converted to paper-tube spinning—for either straight or tapered bobbins. The paper bobbins will be driven correctly—from the top. In warp spinning, you will get up to 40% more yarn per bobbin, cut your doffing and spooling costs, reduce ends down 50% per hour.

Your bobbins will be doffed every ten hours in many cases, instead of every six hours and twenty minutes for the old wooden type. Your saving in doffing and spooling alone will pay you 30% annually on your investment in converting with the new Joanna Adapter.

The cost of fitting the Joanna Adapter to your spindles, including complete assembly, grinding and finishing spindle blade acorn and whirl, usually does not exceed $1.50. The Adapter is being used now by Joanna Textile Mills, Goldville, S. C., and other leading mills. Send samples of your present spindles to us for quotation. We invite you to try the Joanna Adapter on one frame and compare the improved results.

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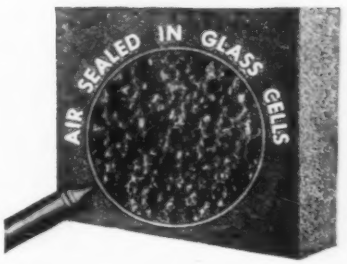


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# Proximity, White Oak and Revolution

MAINTENANCE of equipment at the Proximity, White Oak, and Revolution plants, Greensboro, N. C., is described as follows:

We have a regular overhauling program in card rooms in order to maintain the machinery at a high standard of efficiency.

The opening and picking machinery is gone over thoroughly periodically to see that all aprons, beaters, cages, and screens are in perfect condition. At present we are repairing our Buckley beaters in order to obtain the best results from them.

The points on our Kirschner beaters are kept sharp in order to avoid neps. Experience has taught us that a dull beater will cause neps in the cotton. The section man lubricates these machines at regular intervals.

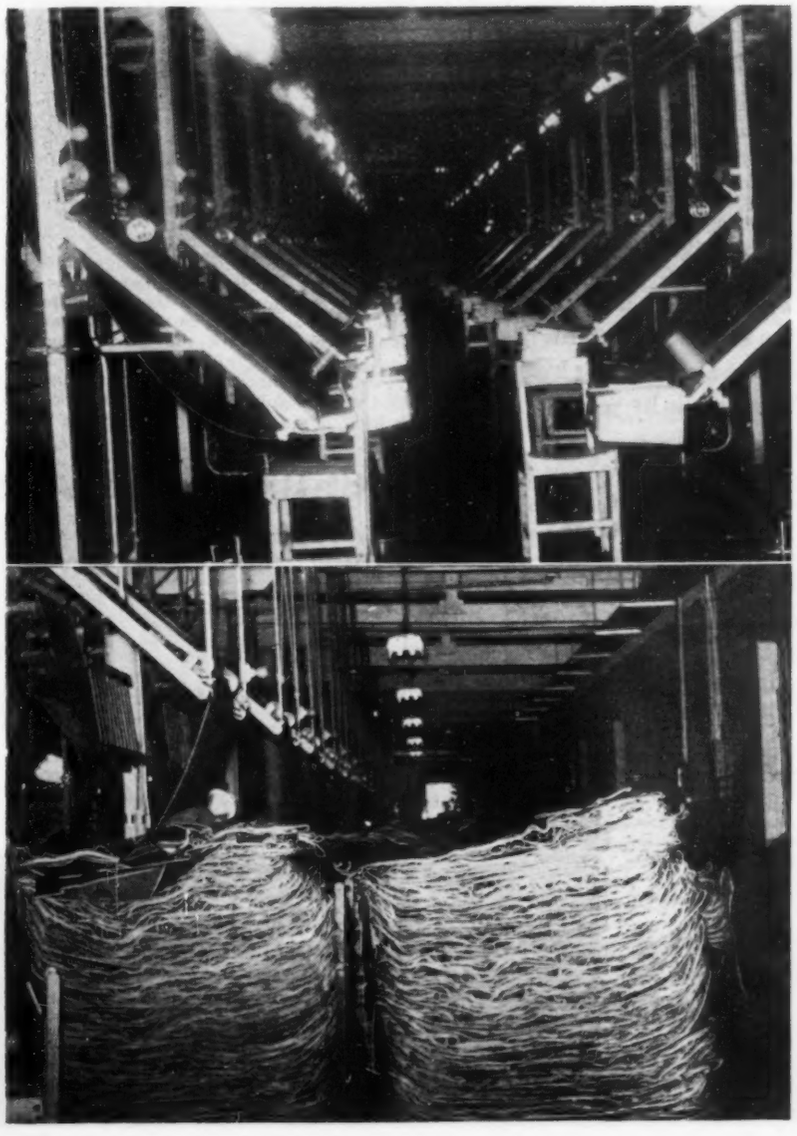
### Carding, Drawing, and Roving

We have regular card grinders who do all maintenance work on the cards. We inspect their work on the cards in order to be sure that the proper amount of grinding and settings are being obtained. We have recently completed overhauling all of our cards. Our card grinders do all of the oiling on these machines.

We have overhaulers that do the work on drawing frames. They overhaul these frames twice a year, checking the gears, studs, shafts, and drafting rolls.

Our overhaulers on drawing frames also do the work on long draft roving frames (we have one-process roving). They overhaul the drafting mechanism three times a year. Roll stands are checked each time rolls are overhauled to prevent necks breaking. The carriage and spindles are overhauled once a year. The section men on drawing and roving do their own oiling at White Oak and Proximity Plants, but a separate oiler is used at Revolution Mill. This is due to a slight difference in the job load.

Two views in cloth room at White Oak.

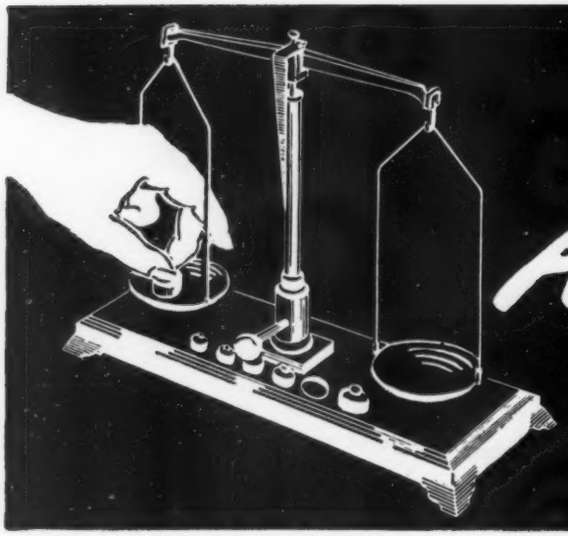


### Spinning

We have regular overhauling crews that inspect spinning frames, replacing all broken and badly worn parts. They start at a frame, usually No. 1, and continue until the last frame in the spinning room has been overhauled. Then they start over again on frame No. 1. It is a continuous overhauling process.

Our plumbing of spindles is done in the same order as the overhauling. The overhaulers start at the first frame and check to see if any spindles need plumbing, checking every frame in the room in this manner.

By following the regular maintenance system, we rarely have serious breakdowns that must be



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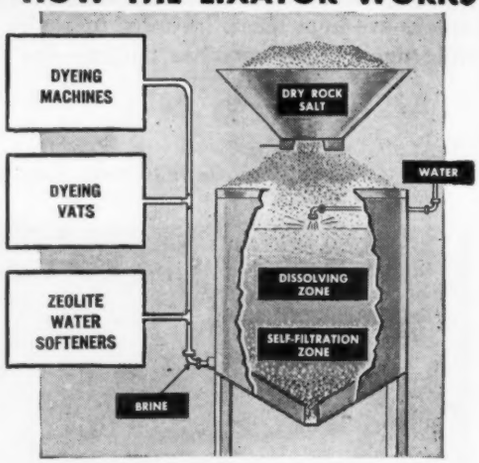
EVERY DYER knows that salt is a top-flight exhausting agent ... that it must be accurately measured to insure complete exhausting without waste... and further that it must also be uniformly distributed in the dye bath to prevent spotting, streaking and white edges. The question is *how.*

With Lixate brine accurate salt measurement and uniform distribution are assured. For the Lixator automatically and continuously makes 100% saturated, crystal clear brine. Since each gallon of Lixate brine *always* contains 2.65 lbs. of salt—a definite volume of Lixate brine supplies a definite quantity of salt. The trouble and waste of measuring salt by hand or by mechanical devices, or of measuring by weight without regard to water absorption during storage, are things of the past. And added to the dye bath, salt, as brine, is immediately diluted and dispersed throughout.

Leading companies in your industry and many others are availing themselves of the Lixator's ability to measure salt accurately ... to reduce labor and handling costs and to improve the quality of their products. It will pay you to investigate the Lixate Process for making brine for your plant.

### HOW THE LIXATOR WORKS




**In the upper zone**—Flowing through a bed of rock salt which is continuously replenished by gravity feed, water dissolves salt to form 100% saturated brine. **In the lower zone**—Through use of the self-filtration principle *originated by International,* the saturated brine is thoroughly filtered through a bed of undissolved rock salt. The rock salt itself filters the brine. Nothing else is needed.

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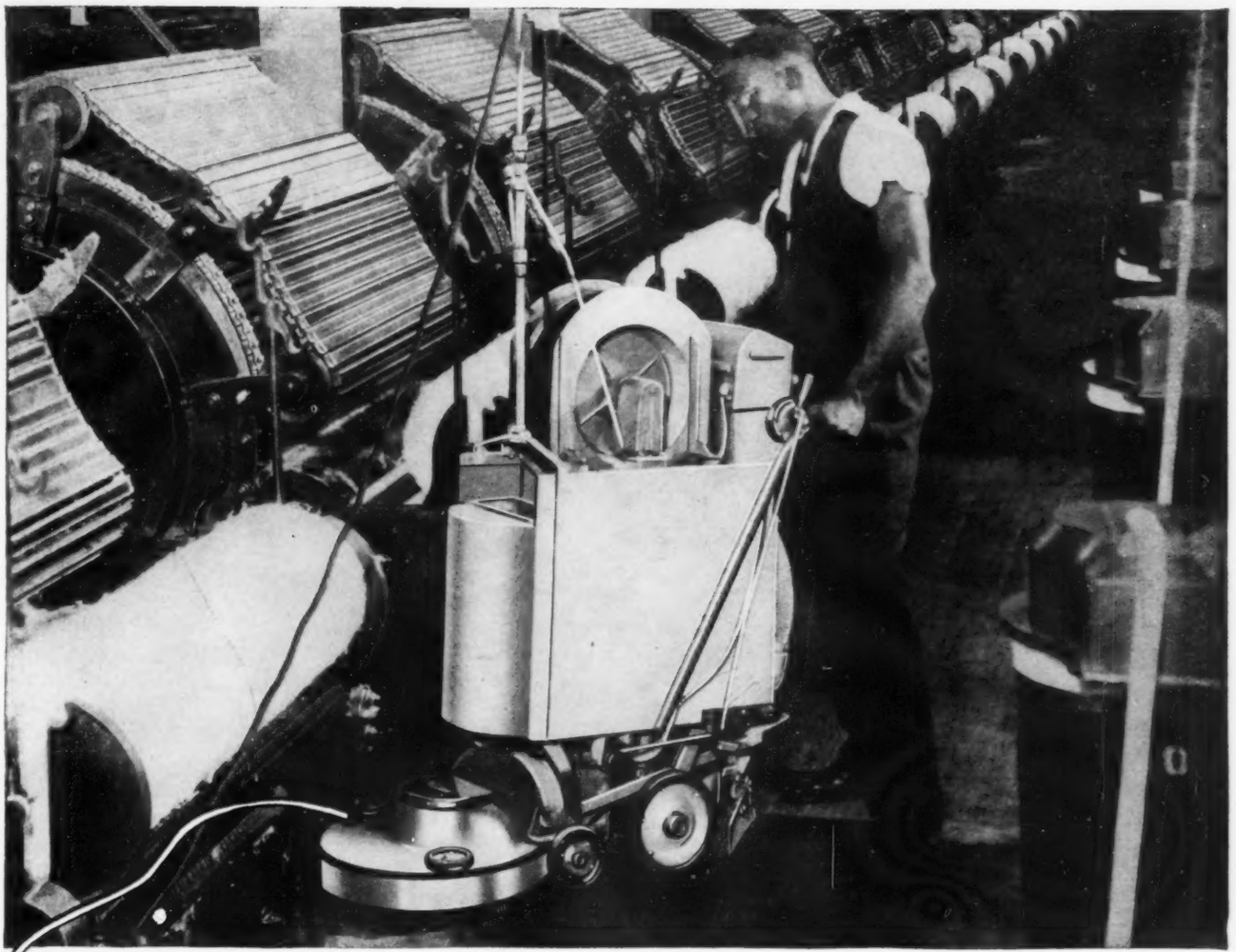

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Since individual floor-cleaning problems differ widely, no one machine can serve the needs of all mills effectually and economically. The area and arrangement of the floors, whether congested or open, type of flooring and production — these determine the equipment. Recognizing that fact, and guided by four decades of practical experience in developing and manufacturing floor-maintenance machines, *Finnell* offers *more than a score* of models and sizes. From this complete line, you can choose *job-fitted* equipment—equipment that fits the need in size as well as model. A *Job-Fitted Finnell* provides the greatest brush coverage consistent with area and arrangement of the floors and other conditions— whether the job calls for wet scrubbing, dry scrubbing, or dry cleaning . . . or for waxing or polishing.

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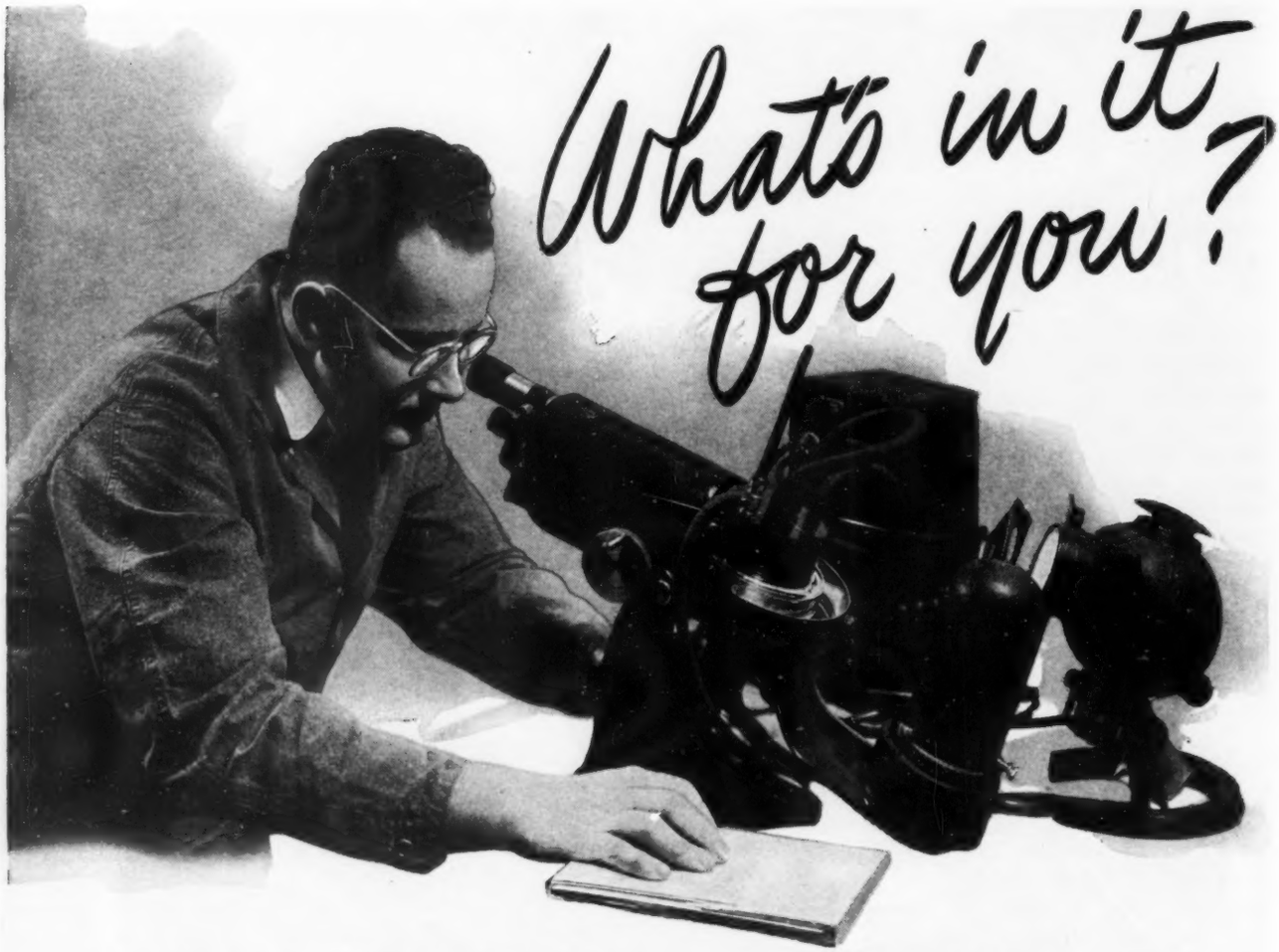


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repaired. Our supply room expense each month is always considerably under the budget allowed for the spinning department.

We use some parts that have been welded after breaking; however, we only use these where they will work smoothly. There are only a few parts that will give satisfaction after welding.

### Spooling and Warping

Our Barber-Colman spoolers and high-speed warpers are given periodic check-ups, and we follow closely the recommendations of the manufacturer in regard to these machines. We have very little difficulty in maintaining them.

### Slashing

We have a large slasher room in each of the plants, and in order to produce the large volume of warps required by our many thousands of looms, it is necessary that all the slashers be kept operating at maximum efficiency in order to attain this production. We maintain a constant check on all cylinders and bearings, condition of size boxes, squeeze rolls, steam valves, and the take-up mechanism for beams, including the slow-motion arrangement.

Due to the construction of Barber-Colman warp tie-in machines, we follow closely the instructions of the manufacturer in regard to maintaining these machines. We have employees who make a specialty of caring for these machines and also obtain inspections and replacement of parts by mechanics furnished by the manufacturer.

### Weaving

We inspect the thousands of looms every 30 days for settings and defects; this is an over-all inspection. We inspect a portion of each loom every week. The first shift inspects the work of the second shift and *vice versa*. A notation is made of work and replacement of worn parts that need to be done. In other words, one shift inspects the work done by the other shift.

Our loomfixers take the worn parts and those that are broken back to the supply room for inspection and replacement, or for work on these parts at the main shop. These parts are inspected by a man assigned to this task, and he determines which are good enough to be welded or further reworked in the shop. There are some parts that can be welded but which will not operate properly—such as a picking arm. It is wasted effort to weld something that will not hold together, or that will not work properly after welding, so that is why we have the parts inspected thoroughly.

Our loomfixers do not cut out any warps, but they tie on full warps and look after all overhauling on their sections. We clean, blow off, and oil looms after each warp runs out. The fixers overhaul one loom at a time at regular intervals until all are completed. We have a regular schedule for oiling all moving parts and bearings as needed.

### Main Shop

The main machine shop gives the usual services of repairing salvagable parts from each department, in addition to cutting new gears, studs, shafts, etc. It also operates service equipment such as compressors, pumps, etc., plus other auxiliary systems, including heating, humidity, and sprinklers.

The lighting system is maintained under the central electrical shop. The service equipment is given periodic inspections for possible worn parts and defects.

We have two electricians on each shift to maintain the electrical equipment. Minor electrical jobs, as well as motor rewinding, are handled by the central electric shop. This unit inspects wiring for defects, replacing it where needed, in addition to maintaining the motors for the entire plant.

### Buildings

We have a floating mill work supervisor who has a carpenter crew and a painting crew for the upkeep of main buildings, floors, and windows. They replace any rotten plank when found, paint the interior at regular intervals, and keep the windows and brickwork in up-to-date condition.

The village maintenance is handled by a construction supervisor with a crew of carpenters and painters who look after village upkeep exclusively, except when called upon for some major job in a plant. The village dwellings are maintained in the best possible livable condition by periodic inspections. This is augmented by regular painting and replacement of defective lumber and plastering.

## Dover Mill Group

(*Continued from page 87*)

will modernize the cloth room along similar lines to the one at the Dover Mill.

### Dora Mill

New blending equipment for both cotton and synthetics was installed during the past year. Orders are on file for replacing 24 old style cards with new 40-inch revolving flat cards. The remaining card room machinery is already designed for handling single process roving throughout.

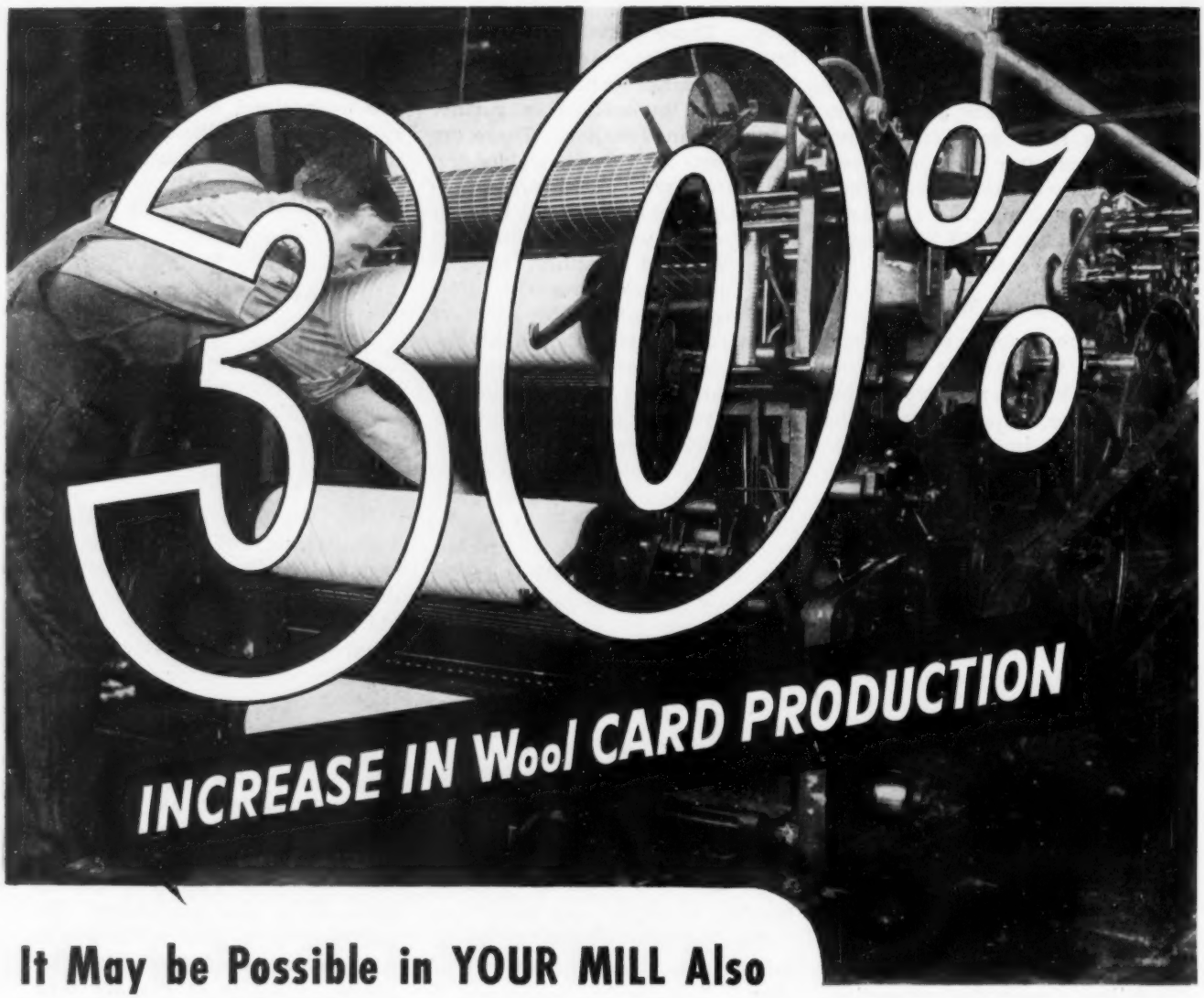
**Spinning.** Installation of 24 Z-2 long draft spinning frames this year will be the final step in a plan which has seen practically all of the old yarn manufacturing equipment at this plant completely replaced by new machinery. Installation of 2 new winders was finished in the fall of 1926, replacing the last of the old type winders in this department.

**Weaving.** Fifty-four XK high speed looms were recently installed and the weave room, as well as the rest of the mill, was repainted.

### Villages Attractive

Each of the mills is surrounded by an attractive, well-kept village. The lawns, shrubbery and flowers noticeable at each house give evidence of the mutual interest of both employee and mill management for the appearance of the village.

Six modern houses are being completed for returned veterans at the Ora Mill, eight similar houses at Dover Mill, and seven at the Dora Yarn Mill. These houses are designed in 4 and 5 room units. The kitchens and halls are planned to accommodate the latest appliances and small home circulator heating units.




# It May be Possible in YOUR MILL Also

During the war a number of our customers in the woolen and worsted industry were so desperately in need of more production that they did something they had never done before. They asked us to inspect their card clothing and cards with a view to improving both the quality and the quantity of the output.

Inspection by one of our practical card men revealed that several mills were using the wrong type of clothing for the job or that the card setting was incorrect for the best results. When our recommendations were adopted, production increased as much as 30% in some cases and the quality of the sliver was greatly improved resulting in better yarns, better fabrics and economies all along the line.

Inspection of cards is only one of hundreds of problems which you and your employees have to think about. We pay a man to do and think of nothing else. It is only logical that he should be able to save many mills time and money and to improve the quality of their carding.

He will be glad to call on you by appointment and to inspect your cards free of charge

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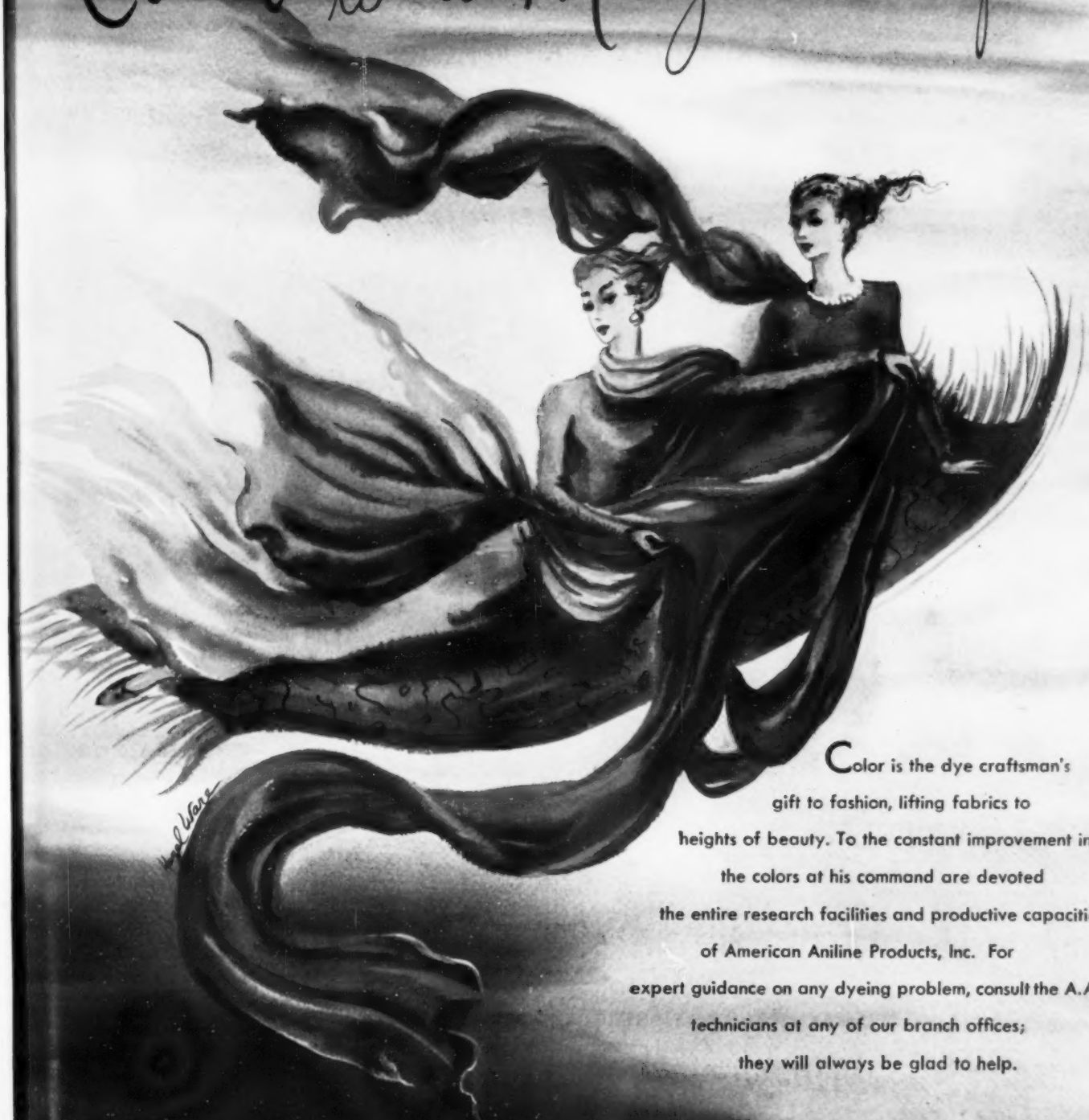

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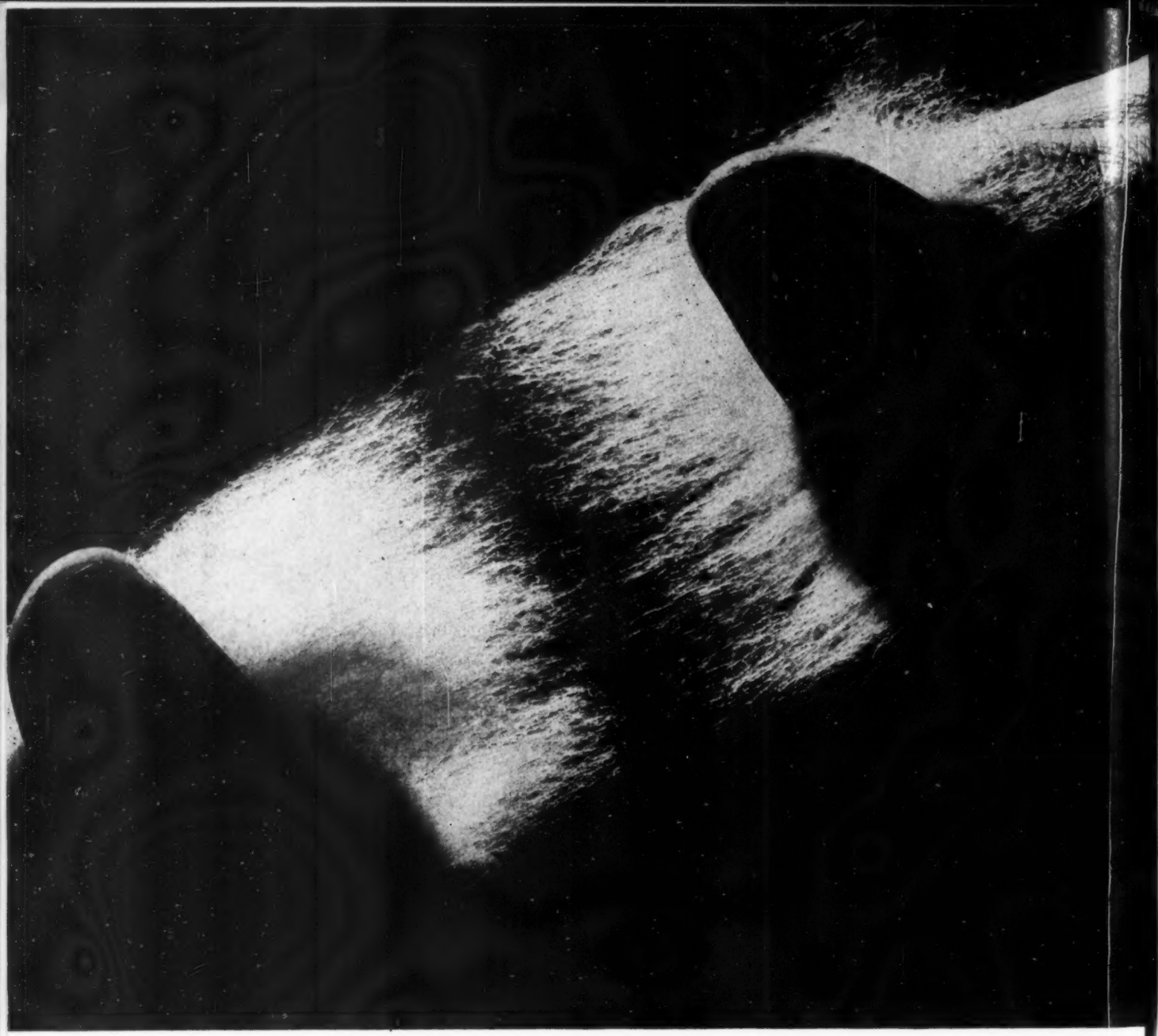

# The More TECA* the Better the Blend

## *EASTMAN CRIMPED ACETATE RAYON

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# Monarch Mills

THE MONARCH plant, Monarch Mills, Union, S. C., is working toward completion of a modernization program which was started at the beginning of the war but was held up due to the inability to obtain the necessary machinery. Every department has received some attention; old processes have been revamped in some cases, and the latest improved machinery has been installed whenever possible to obtain it.

### Carding

The opening room is being greatly enlarged and F-7 feeders are being used to replace conventional feeders. This is being done to facilitate opening a large amount of cotton, and to improve the blending.

One-process pickers with blending reserves were installed in this plant several years ago.

Cards and drawing have been revamped.

Thirty-four new J-3, 9x4½, long draft slubbers have been installed, replacing two roving processes consisting of conventional slubbers and a smaller gauged speeder.

The 20 remaining 10x5 conventional roving frames have been converted to J-3 slubbers, making a total of 54 one-process roving frames.

### Spinning

All warp spinning is on new 3¼-inch gauge frames, equipped with long-draft. Overhead traveling cleaners are used in this room. All filling spinning, slightly old modern frames, have been equipped with long draft attachments and new spindles. Traveling cleaners were also installed here. The addition of high speed spooling and warping gives the spinning department an aspect of complete modernization throughout.

### Weaving

Four hundred and twenty-two 44-inch X-Model looms and 60 X-2, 60-inch looms have been installed. An additional hundred X-2 looms will be installed when available.

All E-Model looms remaining in the plant are being equipped with feelers, Stafford thread cutters, and high-roll worn take-up gears.

The cloth room has recently been streamlined, including the latest type shearing machine, inspecting machine, and a new hydraulic cloth press.

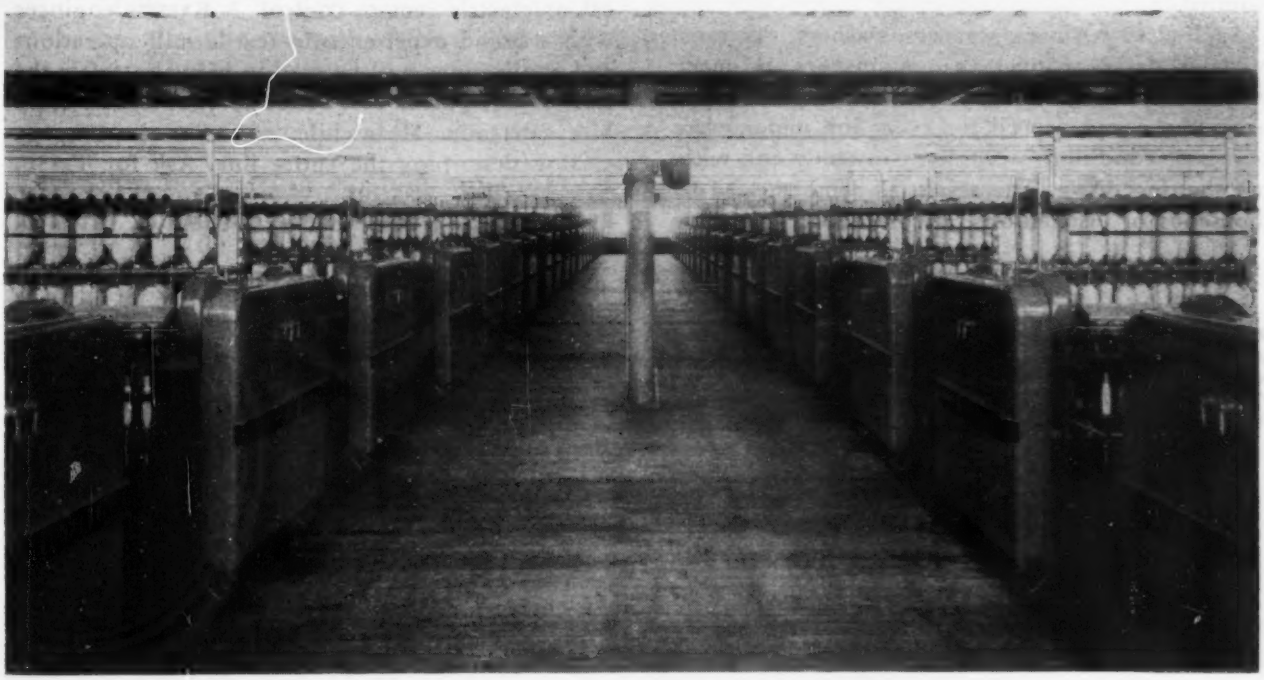
The plant is being equipped throughout with fluorescent lighting and unit heaters.

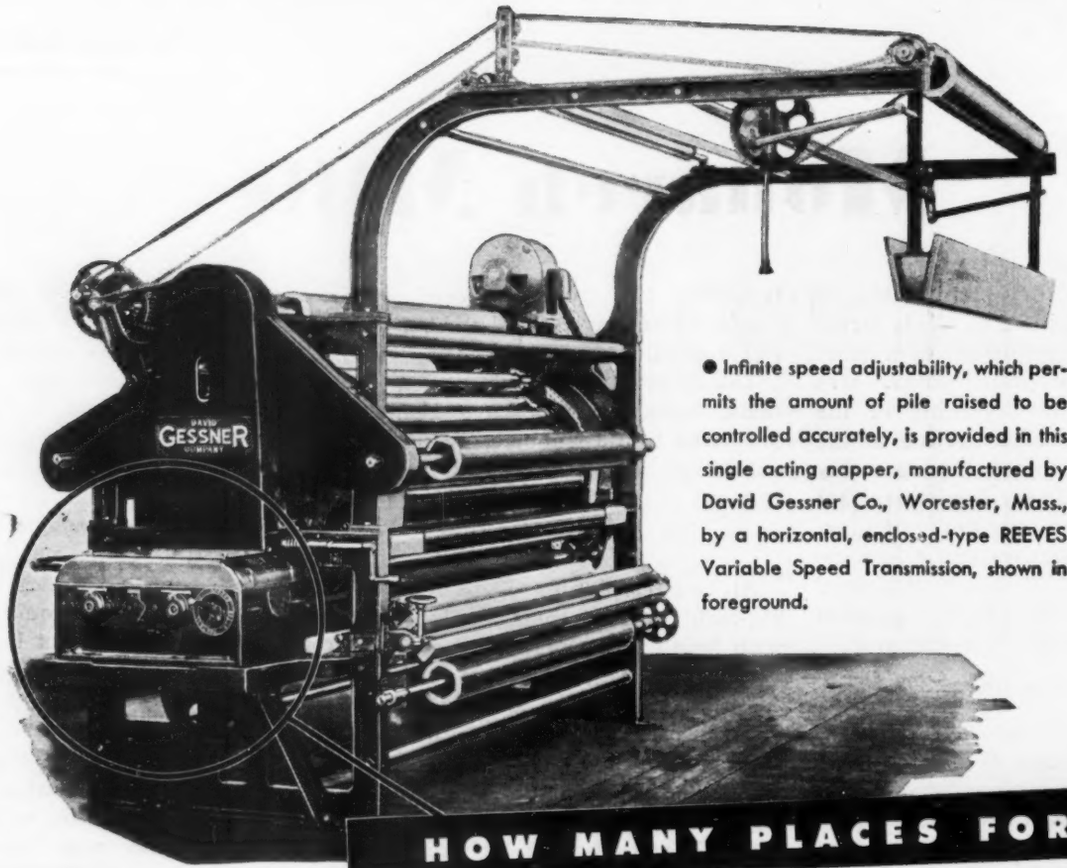
### Maintenance

Well-trained maintenance crews are in use in each department. They are under supervision of the overseers. Machine shop equipment, which plays a major part in maintenance, is being completely revamped; and more new equipment is to be installed, bringing this department to a high state of efficiency.

The Monarch plant is equipped with 74,848 spindles, 1,825 looms in operation, and complementary

Spinning room at Monarch Mills, Union, S. C.






● Infinite speed adjustability, which permits the amount of pile raised to be controlled accurately, is provided in this single acting napper, manufactured by David Gessner Co., Worcester, Mass., by a horizontal, enclosed-type REEVES Variable Speed Transmission, shown in foreground.

# HOW MANY PLACES FOR REEVES SPEED CONTROL IN YOUR MILL?

Wherever you have machines processing yarn or cloth that differs in texture, weight or moisture content . . . wherever you have an operation affected by variations in temperature, humidity or the operator's skill . . . there you need REEVES Speed Control.

Applied to beamers, warpers, slashers, dry cans, mangles, dryers, nappers, range finishers and many other textile machines, REEVES Variable Speed Drives provide the right speed for every job under every changing condition—accurately, instantly and without shutting down. The result, as demonstrated by thousands of installations, is continuous, profitable production . . . uniform and improved quality of product . . . reduced manufacturing cost.

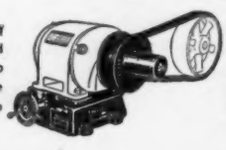
The REEVES line includes three basic units which are manufactured in a wide range of designs, sizes and speed ratios . . . with manual, hydraulic, mechanical or electric remote control. A REEVES engineer with a broad experience in textile mill operations and applications will be glad to help you select the REEVES equipment best suited to your needs. Have him call soon. Meanwhile, write for the 96-page catalog describing the entire line. Ask for T-450.

**REEVES PULLEY COMPANY • COLUMBUS, INDIANA**

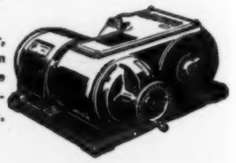
## THE THREE BASIC REEVES SPEED CONTROL UNITS

**VARIABLE SPEED TRANSMISSION** for providing infinite, accurate speed flexibility over a wide range—2:1 to 16:1. Sizes—fractional to 87 hp.

**VARI-SPEED MOTOR PULLEY** converts any standard constant speed motor to a variable speed drive within 4:1 ratio. Sizes to 15 hp.



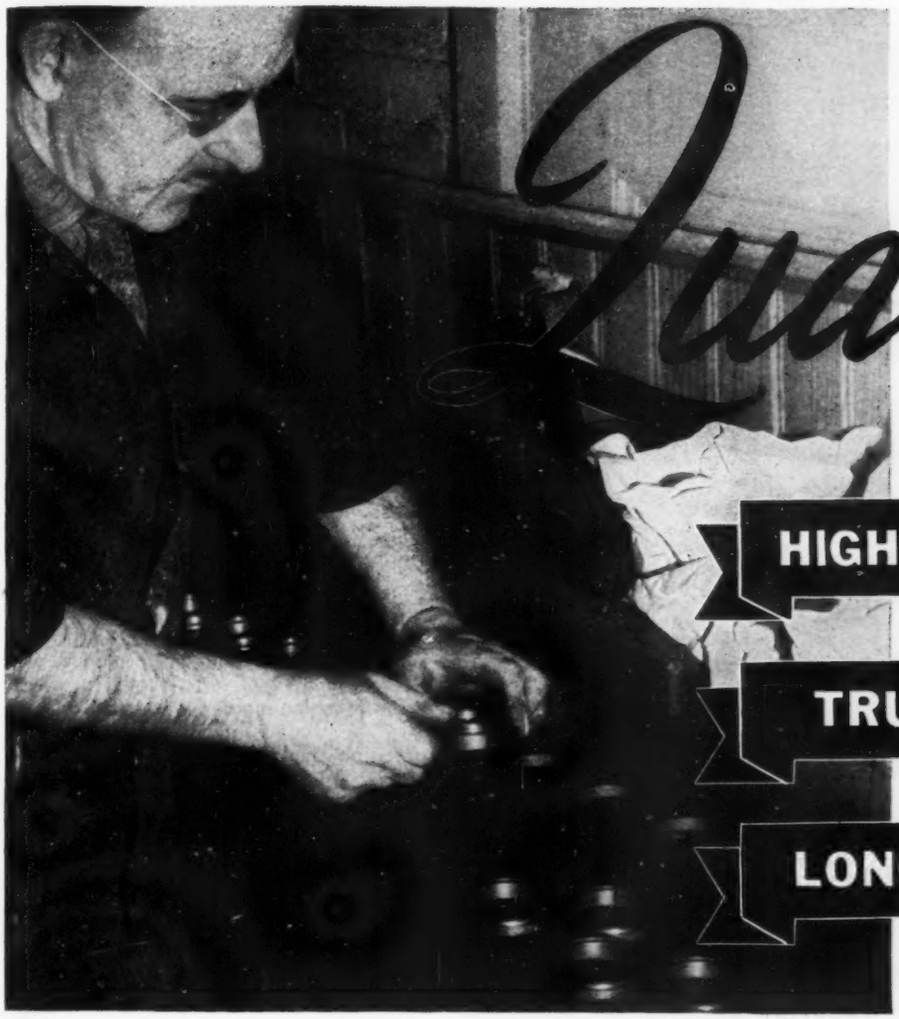
**MOTODRIVE** combines motor, speed varying mechanism and reduction gears in single compact unit. Speed variations 2:1 to 6:1 inclusive. Sizes to 15 hp.



*Accurate Variable*

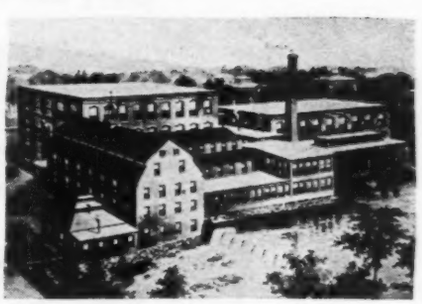
**REEVES Speed Control**

*Gives the Right Speed for Every Job!*




## Quality Rings promote Quality Yarns

For 74 years, DIAMOND FINISH Rings have provided the finish, trueness and wear which permit top production with top quality. In addition to standard rings, the various Eadie lubricated styles offer extra fine opportunities to obtain new production highs from existing machinery.



*World's Largest Ring Plant*

**WHITINSVILLE (MASS.)**
**SPINNING RING CO.**
*Makers of Spinning and Twister Rings since 1873*

DIAMOND FINISH

Standard DIAMOND FINISH Flange Ring

Eadie Laced Wick Oil-lubricated Ring

Common Flange Ring for Heavy Twisting

Eadie Multiple-groove Greased Ring

CARD COILER GEARS

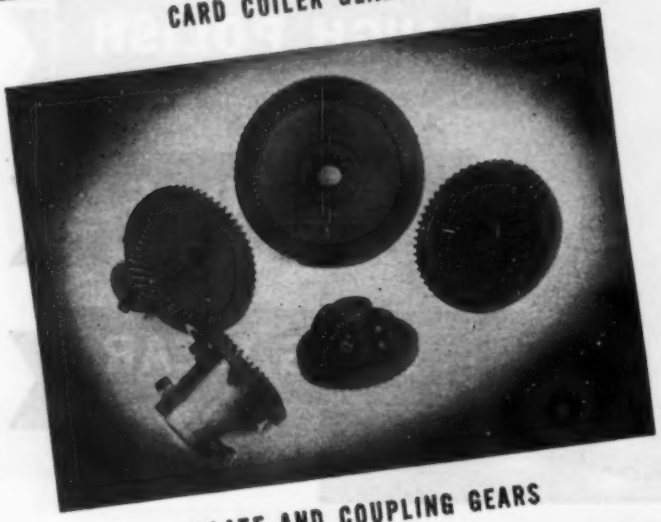
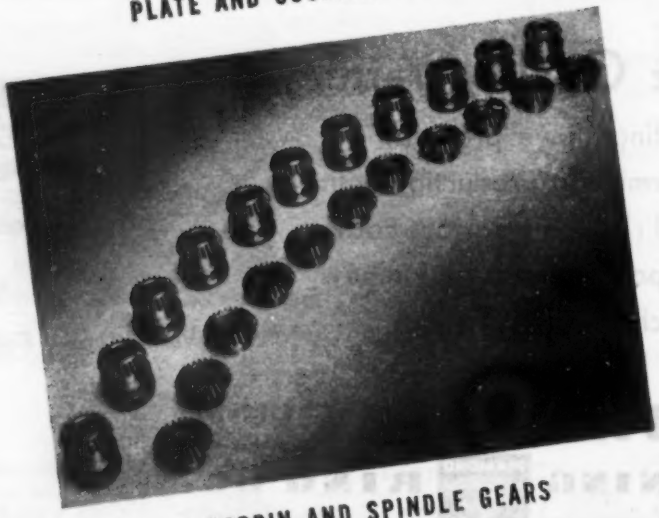


PLATE AND COUPLING GEARS



BOBBIN AND SPINDLE GEARS

# *Longer Wearing!*

GEARS by Henderson provide longer, more efficient service and smoother performance because they fit accurately and mesh easily, reducing chatter and vibration.

This superior quality and performance of Henderson machine-molded cast-tooth gears and precision-machined cut-tooth gears, is assured by modern metallurgical and foundry practices to provide uniformity of specifications, by accurate machining and rigid inspection to assure maximum operating efficiency and by an experience gained from twenty-five years of service to many of the South's leading textile mills.

***Henderson Bobbin and Spindle gears, Plate and Coupling gears, and Card Coiler gears to fit all frames. Submit samples, drawings or specifications for quotations.***

**QUANTITY PRODUCTION OF CAST-TOOTH GEARS. CUT-TOOTH GEARS FROM 2 TO 32 DP**

**HENDERSON FOUNDRY & MACHINE CO.**

*(A Division of Southern States Equipment Corporation)*

HAMPTON, GEORGIA

*Largest Manufacturer of Cast-Tooth and Cut-Tooth Gears in the South*

carding equipment. The products are a variety of wide prints and convertible fabrics.

The landscaping program around the plant includes replanting of lawns, rearrangement of shrubbery, and new concrete for all drive and walkways, making an attractive outside appearance.

### Ottaray Plant (Monarch Mills)

THE OTTARAY plant, Monarch Mills, is in process of changing its present production of cotton fabrics to spun rayon goods; the program is about 50 per cent complete.

One Superior cleaner has been installed, and two pickers have been converted to rayon production, with Superior blending. The backs of these machines have been altered in order to tint the rayon staple at this point. All cotton pickers have been equipped with return air condensers.

All cards have been overhauled and reclothed where necessary.

Drawing frames have been equipped with static eliminators as an aid in processing spun rayon.

Ten new FS-2, 9x4½ roving frames, and six new FS-2 10x5 frames have been installed this year. These were purchased for synthetic production.

All spinning frames have been equipped with long draft attachments. The Barber-Colman spoolers have been equipped with return air condensers. This is the regular return air condenser applied to spooling.

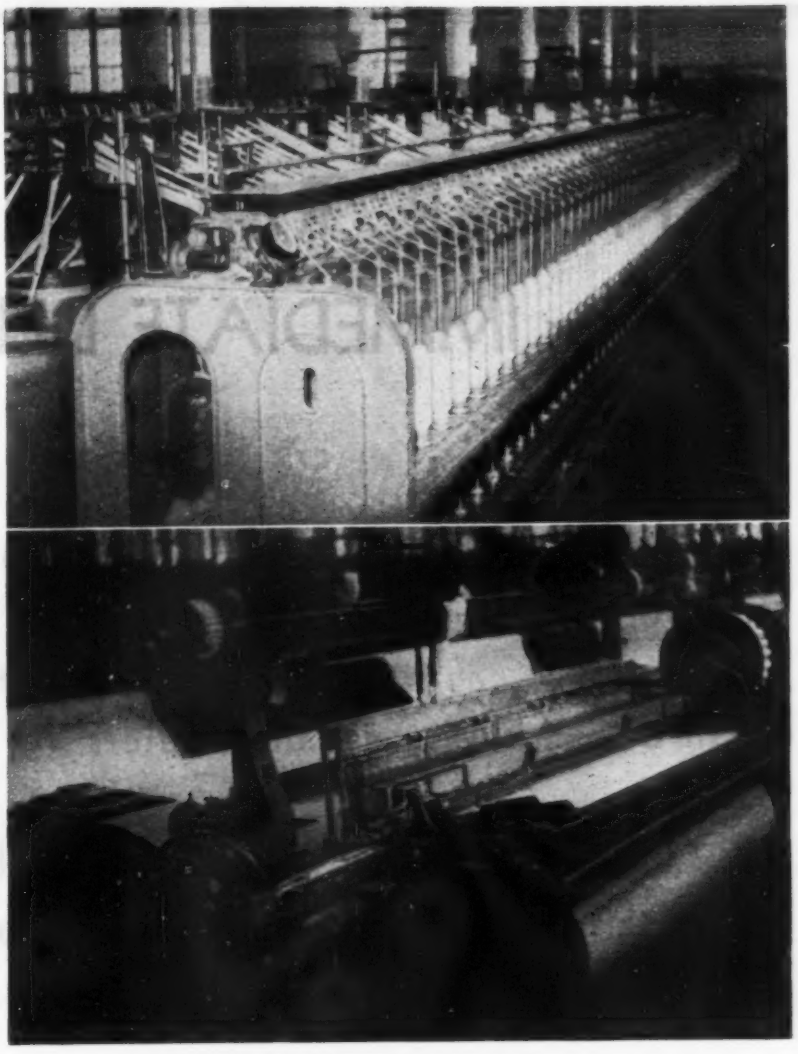
Two slashers with latest type friction controls have been installed. Both stationary and portable tying-in machines are in use.

#### Weaving

Two hundred and three new X-2 looms have been installed for the production of spun rayon fabrics. E-Model looms remaining in the plant will be replaced with X-2 looms within the near future.

One new shearing machine and six new inspection machines, for inspecting cloth over the light, have been installed recently. A new hydraulic bale press has been installed in this department.

The plant has been equipped throughout with fluorescent lighting and atomizer humidity equipment.



Modernization at Monarch started prior to the war.

A central lubrication department has been installed with a supervisor in charge for the entire plant.

A new unit type heating system has been installed throughout the mill, replacing the old type coil pipe heating.

Two new boilers are used for heating and slasher preparation. The machine shop has also been brought up-to-date in every way.

The landscaping around the plant is being improved, which includes rearrangement of shrubbery. All roads around plant and village have been hard-surfaced.

### Lockhart Plant (Monarch Mills)

THE OPENING ROOM in the Lockhart (S. C.) plant of Monarch Mills is being modernized by the installation of four Superior cleaners. Return air condensers are being installed in the picker room.

#### Carding

Sixteen roving frames have been rebuilt and equipped with J-3 long draft equipment; these are 8x4 frames for warp roving. Five new J-3, 8x4 frames have also been added for warp roving.

Sixteen 9x4½, FS-2 frames have been installed for production of roving used in filling spinning.

#### Spinning

All spinning frames have been equipped with long draft attachments. This refers to frames that were equipped with conventional drafting when first purchased. However, many of the latest-type spinning frames have been installed recently.

# PICKER REPAIR PARTS
## For IMMEDIATE DELIVERY

We manufacture and keep on hand for immediate delivery a complete stock of repair parts for Kitson pickers. We can also furnish many parts, such as screens, ball bearings, aprons, and beaters, for other pickers.

In an emergency, a telephone call or telegram can have the needed repair parts at your plant the day after the order is placed.

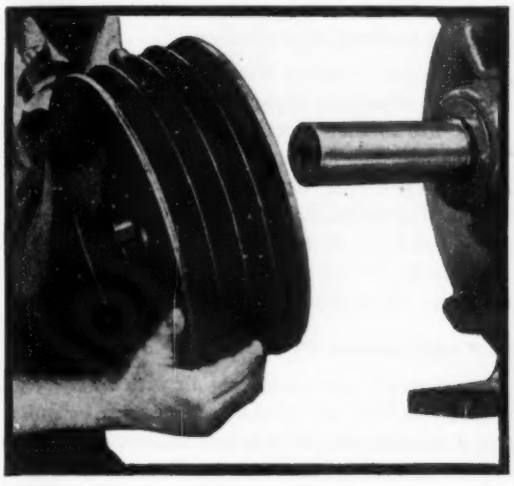
Aldrich rebuilt pickers are exactly like new machines, and where it is not feasible to have your own pickers rebuilt, these can be exchanged for similar sections in our warehouse which can be rebuilt for you and installed with little or no interruption to production.

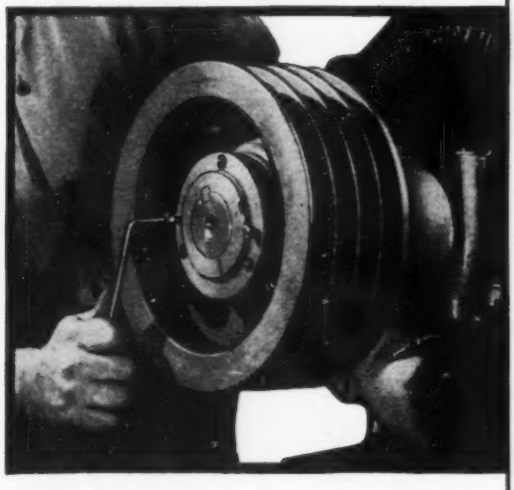
**AldricH MachinE**
**Greenwood, WorkS South Carolina**

# Easy-Mounting, Fast-Locking Sheave

# *Pays Off*

## The First Time You Put It On!





# "MAGIC-GRIP" *sheaves offer time-saving, money-saving features!*

EVEN if you install the sheave only once, and never change it again — it pays to get a "Magic Grip" sheave! For frequent changes, naturally, your savings pyramid.

- **No filing or reaming.** "Magic-Grip" bushing slides easily, even on oversize shafts.
- **No hammering or forcing** to damage motor bearings.
- **No wheel puller needed** to get the sheave off.
- **No set screws** to mar or score the shaft.
- **No wobble or blacklash.** "Magic-Grip" sheaves lock to shaft with shrunk-on grip.

HOW DOES IT WORK? Sheave and bushing come completely assembled. You just slip it on the shaft — align — and tighten three screws. *That's all!* And it comes off just as easily.

Standardize on time-saving, money-saving "Magic-Grip" sheaves. They're heavy duty, precision made and finely finished — the best sheaves you can buy . . . the best economy in the long run. Get them through your nearest A-C dealer or office.

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**"Super 7" V-BELTS**
Five Types — Sizes to suit every power transmission job.

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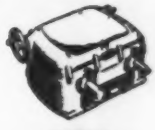
**"Vari-Pitch" SHEAVES**
Exact variations in speed, stationery or motion control.



**SPEED CHANGERS**
Speed variations up to 375% at the turn of a crank.

**ENGINEERING**
Finest V-Belt engineering talent in the world—at your call.

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TEXROPE "Super 7" V-Belts result from the cooperative research of two great companies — Allis-Chalmers and B. F. Goodrich. They are sold only by A-C.

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One of the Big 3 in Electric Power Equipment — Biggest of All in Range of Industrial Products

1847 1947 A CENTURY OF SERVICE to Industry THAT MADE America Great

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Airmat paper, a proved filtering media for the past 20 years, offers even higher cleaning efficiency and longer life as the collecting element for this Dry Type Electronic Precipitator. When electrostatically charged, every fibre of Airmat paper becomes a collecting electrode to attract and hold airborne lint, smoke and dust. What's more, electronic action, by increasing its dust-holding capacity, extends the life of Airmat paper 30%.

**2. Continuous Protection**

You are never without filtered air with an Electro-Airmat on the job. If electronic action becomes inoperative due to power failure or in case of "stack effect" due to system design, Airmat paper continues to function efficiently as a mechanical filter.

**3. Fireproof Design**

When using non-combustible Airmat paper, the Electro-Airmat eliminates all possible fire hazards. There is no oil film required to hold the collected material in place — no oiling by immersion or spraying — no sludge removal.

Here's three way protection for product, pocketbook and property plus installation economies resulting from 40% less weight and elimination of costly water connections and sewer drains. Write for Bulletin No. 253 describing this modern air filter. If you want really clean air, continuously, at lower cost, it's strictly a job for an Electro-Airmat.

**AMERICAN AIR FILTER CO., INC.**
275 Central Ave., Louisville 8, Ky.
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ELECTRO·AIRMAT
ELECTRONIC AIR FILTER

One hundred and eighty-eight L-Model looms have been installed for production of carded percale sheets, the widths of these looms being 82 inches, 90 inches, and 100 inches. This is 25 per cent of the weaving equipment.

One slasher is being rebuilt for running percale warps; it has three cylinders, control instruments, and traveling hoist.

One weave room, running print cloth, is being converted into production of diaper goods. A continuous bleaching range is being installed to finish this production. This consists of the very latest in finishing equipment. A new unit has been completed at another plant to cut this bleached diaper cloth and put it in individual packages for the consumer.

The remaining 823 E-Model 40-inch looms are being modernized for the production of print cloths.

In the cloth room, one of the latest type tandem inspection machines has been installed to take care of inspecting percale sheets.

About 90 per cent of plant is on atomizer humidity, and the remaining 10 per cent is being converted to this type humidification.

Fluorescent lighting has been installed in all of the plant except two rooms, and this will be completed as soon as the equipment is available.

Additions, such as tool grinders and other related equipment, are being purchased for the machine shop to bring it up-to-date.

*Maintenance*

# Wiscassett Mills Company

THE MAINTENANCE program at Wiscassett Mills Company, Albemarle, N. C., as described here pertains to the fiber processing machinery. This plant also operates full-fashioned hosiery machinery. Maintenance of that department is not included in this discussion.

Mechanics in the picker room overhaul pickers once a year, going through the entire machine and checking each part. Everything that shows excessive wear is removed and a new part is put in as replacement. A special effort is made to keep beaters sharp.

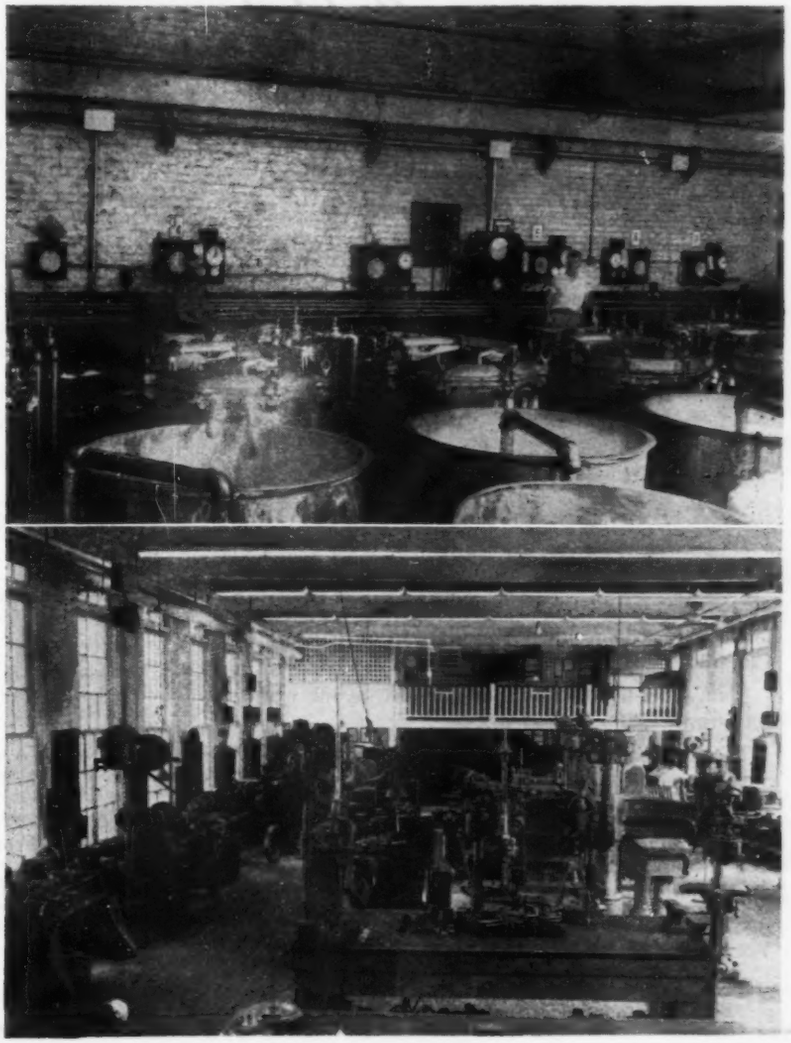
### Cards and Combers

Card grinders tend to all oiling and maintenance of the cards. These operatives keep check by records as to when cards need to be ground; grinding is done on an around-the-clock basis. About 15 days are required for the card grinders to complete grinding on all cards.

A regular overhauling crew takes care of maintenance on combers all of the time. This special crew replaces worn parts with new parts, and makes the correct settings where defects are found when checking a comber. These overhaulers do all mechanical work necessary to keep the combers in good running condition.

There are two drawing processes; drawing frames are overhauled every three months, at which time all rolls are removed and the bearings cleaned. Each roll is checked thoroughly at this time.

Roving frames are kept up in



**Two views at Wiscassett. Above, scene in modern dyehouse. Lower, the well-equipped machine shop. Note lighting.**

# In any language... with any accent... ANY PLACE YOU GO!

"Sanforisovano" (CZECHOSLOVAKIA)

"Sanforisiert" (SWITZERLAND)

"Sanforiseret" (DENMARK)

"Sanforisé" (FRENCH SPEAKING COUNTRIES)

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"Sanforizado" (ALL SPANISH SPEAKING COUNTRIES)

"Sanforized" (ALL ENGLISH SPEAKING COUNTRIES)

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**Wherever, whenever** you see the name "Sanforized" on a label, you know that the cloth has been shrunk to the same standard—residual shrinkage less than 1%—by Cluett-Peabody's compressive-shrinkage process.

It's a label to look for, and to trust, in the world of cotton yardage.

The "Sanforized" licensees—the men and the firms who put life and meaning into that label—deserve the respect of the industry, the gratitude of consumers.

We do not exaggerate when we state that the "Sanforized" licensees are the textile leaders of the world. We are very proud of them, and we salute them!

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EAGLE & PHENIX MILLS ..... Columbus, Ga.
THE ERWIN COTTON MILLS COMPANY ..... Cooleemee, N. C.
THE ERWIN COTTON MILLS COMPANY ..... Erwin, S. C.
FAIRFOREST FINISHING CO. ..... Spartanburg, S. C.
FRUIT OF THE LOOM, INC. ..... Pontiac, R. I.
GLENLYON PRINT WORKS ..... Phillipsdale, R. I.
GOLD-TEX FABRICS CORP.—Mill Division ..... Rock Hill, S. C.
GOODALL-SANFORD, INC. ..... Sanford, Me.
GREAT FALLS BLEACHERY & DYE WORKS, INC. . Somersworth, N. H.
GRANITEVILLE COMPANY—Gregg Division ..... Graniteville, S. C.
GRANITEVILLE COMPANY—Sibley-Enterprise Division .... Augusta, Ga.
HAMPTON PRINT WORKS DIV.—(The Aspinook Corp.) Easthampton, Mass.
HANNAH PICKETT MILLS CO. ..... Rockingham, N. C.
HARTSVILLE PRINT & DYE WORKS ..... Hartsville, S. C.
HIGHLAND PARK MANUFACTURING CO. ..... Charlotte, N. C.
INDUSTRIAL COTTON MILLS CO., INC. ..... Rock Hill, S. C.
KENDALL MILLS—(Slatersville Finishing Co.) ..... Walpole, Mass.
KERR BLEACHING & FINISHING WORKS, INC. ..... Concord, N. C.
LANE COTTON MILLS COMPANY ..... New Orleans, La.
LANETT BLEACHERY & DYE WORKS ..... West Point, Ga.
THE LAWRENCE PRINT WORKS, INC. ..... Lawrence, Mass.
LINCOLN BLEACHERY & DYE WORKS ..... Lonsdale, R. I.
LOWELL BLEACHERY, INC. ..... St. Louis, Mo.
LOWELL BLEACHERY SOUTH ..... Griffin, Ga.
THE MILLVILLE MANUFACTURING CO. ..... Millville, N. J.
MOORESVILLE COTTON MILLS ..... Mooresville, N. C.
MOUNT HOPE FINISHING COMPANY ..... North Dighton, Mass.
NASHUA MANUFACTURING COMPANY ..... Nashua, N. H.
NATIONAL DYEING & FINISHING CORPORATION .. Los Angeles, Calif.
NEW BRAUNFELS TEXTILE MILLS ..... New Braunfels, Texas
NORTH CAROLINA FINISHING COMPANY ..... Salisbury, N. C.
THE ONEIDA BLEACHERY, INC. ..... New York Mills, N. Y.
PACIFIC MILLS ..... Lyman, S. C.
PACOLET MANUFACTURING CO. ..... New Holland, Ga.
PEE DEE MILLS, INC. ..... Rockingham, N. C.
PEPPERELL MANUFACTURING COMPANY ..... Lindale, Ga.
PEPPERELL MANUFACTURING CO.—Lewiston Div. ..... Lewiston, Me.
PILOT MILLS CO. ..... Raleigh, N. C.
PLYMOUTH FINISHING CO., INC. ..... Fall River, Mass.
PROVIDENCE D. B. & C. CO. ..... Providence, R. I.
PROXIMITY MANUFACTURING CO.—White Oak Mill. Greensboro, N. C.
PROXIMITY MANUFACTURING CO.—Proximity Mill. . Greensboro, N. C.
RENFREW BLEACHERY—(Brandon Corp.) ..... Travellers Rest, S. C.
REVOLUTION COTTON MILLS ..... Greensboro, N. C.
RIEGEL TEXTILE CORPORATION—Ware Shoals Div. . . Ware Shoals, S. C.
RIEGEL TEXTILE CORPORATION—Trion Division ..... Trion, Ga.
ROANOKE MILLS COMPANY—Mill No. 1 ..... Roanoke Rapids, N. C.
ROBERTSON BLEACHERY & DYE WORKS, INC. . . . New Milford, Conn.
ROCK HILL PRINTING & FINISHING CO. ..... Rock Hill, S. C.
THE RUSSELL MFG. CO., INC. ..... Alexander City, Ala.
THE SALISBURY COTTON MILLS ..... Salisbury, N. C.
SAYLES FINISHING PLANTS, INC. ..... Saylesville, R. I.
SAYLES-BILTMORE BLEACHERIES, INC. ..... Biltmore, N. C.
PHILIP I. SHEERR & SONS ..... Frankford, Philadelphia, Pa.
SOUTHBRIDGE FINISHING COMPANY ..... Southbridge, Mass.
SOUTHERN BLEACHERY & PRINT WORKS, INC. ..... Taylors, S. C.
THE SPRINGDALE FINISHING CO., INC. ..... Canton, Mass.
SPRINGDALE FINISHING SOUTH, INC. ..... Whitney, S. C.
STANDARD BLEACHERY & PRINTING CO., INC. ..... Carlton Hill, N. J.
J. L. STIFEL & SONS, INC. ..... Wheeling, W. Va.
STONEWALL COTTON MILLS ..... Stonewall, Miss.
SUMMERDALE DYEING & FINISHING WORKS ..... Holmesburg, Pa.
SUMTER TEXTILE MILLS ..... Sumter, S. C.
TEXAS TEXTILE MILLS ..... McKinney, Texas
TEXAS TEXTILE MILLS ..... Waco, Texas
TEXTRON-SOUTHERN, INC.,—Finishing Div. ..... Anderson, S. C.
THOMASTON COTTON MILLS ..... Thomaston, Ga.
UNION BLEACHERY ..... Greenville, S. C.
THE UNITED STATES FINISHING COMPANY ..... Norwich, Conn.
WHITE BROTHERS, INC. ..... Winchendon Springs, Mass.

### URUGUAY

S. A. FABRICA URUGUAY DE ALPARGATAS ..... Montevideo, Uruguay

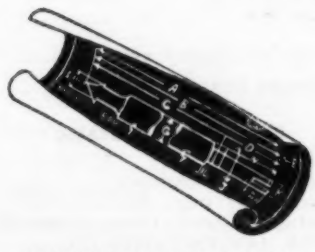
# RAYON BRIGHT - RCK BLACK

## TWO FAMOUS FLYER FINISHES

RAYON BRIGHT is highly buffed and polished to resemble a chromium plated finish. This finish was developed especially for use in Rayon mills where conventional finishes were not satisfactory.

RCK BLACK is a beautiful, glossy, highly rust-resistant finish that has proved so superior in White Goods mills that today over 400,000 are in use in mills from Maine to California.

In either of the above finishes . . . all flyers are completely rebuilt to highest standards before the finish is applied. Whether you prefer RAYON BRIGHT or RCK BLACK . . . Ideal is equipped to give you the finest in workmanship and service.



SPINDLES REBUILT TO FACTORY BLUEPRINT SPECIFICATIONS

*We Furnish spindles and flyers while yours are being repaired*

# IDEAL MACHINE SHOPS

INCORPORATED

BESSEMER CITY, NORTH CAROLINA

23RD YEAR OF CONTINUOUS SERVICE TO TEXTILE MILLS

an efficient manner. Steel rolls are scoured four times a year, or once every three months. Roving frames are lined and leveled once every two years.

The section men only keep the frames running, and a regular overhauling crew does most of the mechanical work, taking out old and worn parts. This special crew also takes care of all extraordinary repair jobs on roving frames.

### Spinning Department

A regular overhauling crew does most of the maintenance work in the spinning department. This crew lines and levels spinning frames once every two years. The spindles are plumbed and rings are set once a year. The special crew removes all defective bolsters in order to keep the frames in first-class running condition.

This spinning overhauling crew goes from one mill to another in rotation the year round, there being four mills to maintain in this manner.

There is also a special crew to dismantle frames and clean steel rolls and leather aprons every three months.

Winders are overhauled regularly each year. The rolls and bearings on these machines are cleaned every four months. Winders are kept properly lubricated, which reduces the amount of maintenance work necessary.

Twisters are maintained in the same manner as spinning frames.

### Yarn Dyeing Department

The maintenance of yarn dyeing equipment at this plant offers little difficulty, due to the fact that all machines are constructed of stainless steel. The pumps do wear to a certain extent, and it is necessary to repack when this occurs.

A constant watch is kept for wear in pumps, and a special effort is made to provide pumps with new packing to prevent any escape of dye solutions.

The interior of the dyehouse is repainted with fume-resistant paint once every 18 months.

All water pipes in the dyehouse are constructed of copper, which eliminates rust and makes repairs negligible. Yarn is dyed in package form on modern equipment.

The main machine shop makes a large number of replacement parts for all production machines. This shop is equipped with a battery of lathes, drill presses, gear cutters, and other shop equipment.

The carpenter shop is equipped to do anything relating to wood work. This shop looks after all wood work in the plants and in the village.

The roll covering shop repairs all scavenger rolls and covers all leather rolls for the carding and spinning departments.

Every employee in each department of the company has been trained to be "clean conscious" on the job. This has resulted in one of the cleanest textile plants to be found in the country. This training for maintaining plant cleanliness has been in force for a long period of time.

*Modernization*

# Mooresville Mills

MOORESVILLE MILLS (formerly Mooresville Cotton Mills), Mooresville, N. C., is engaged in an extensive modernization and expansion program, a considerable portion of which was completed during the past year. The modernization of slashing, raw stock dyeing, air conditioning and humidification, overhead cleaning in spinning, materials handling, and beam and piece dyeing are some of the latest additions.

**Raw Stock Dryer and Baler.** A new raw stock dryer and bale press have been installed, making it possible to form bales of dyed raw stock weighing 700 pounds each; this is an improvement over the discarded machinery.

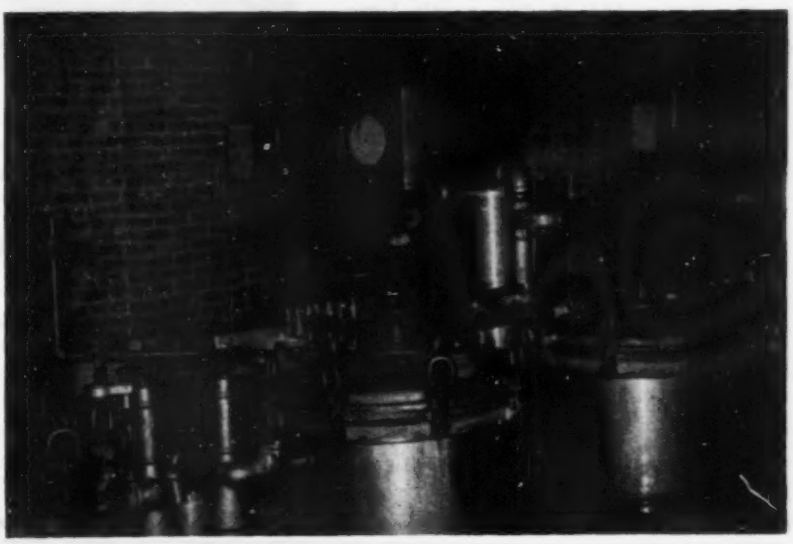
**Air Conditioning and Humidification.** Air conditioning and atomizer humidification have been installed throughout the plant.

**Overhead Spinning Cleaning.** Overhead cleaning equipment has been installed in the spinning department. This equipment blows down all lint and dust overhead and on top and around the sides of spinning frames. The overhead cleaner is the same type as that introduced in cardrooms for overhead cleaning.

**Materials Handling.** A Tramrail has been installed for conveying filling yarn from the No. 3 spinning room to the weaving department; this improvement works automatically, carrying large loads and reducing costs of handling yarn between the two departments.

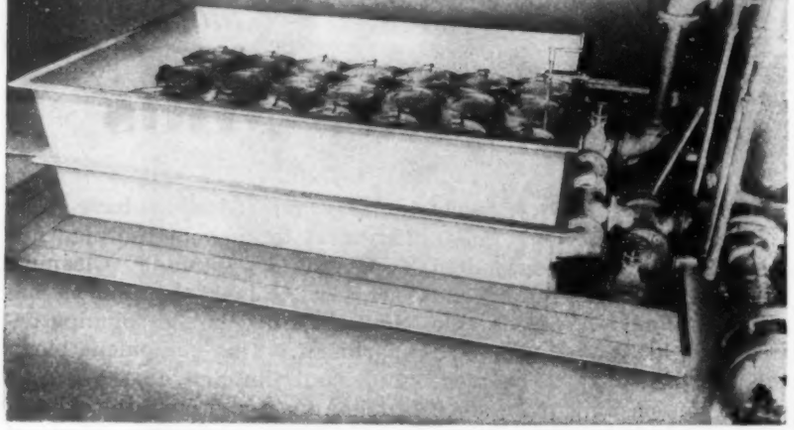
**Dyeing Machinery.** A battery of

**View of portion of beam dyeing equipment at Mooresville.**



**Obermaier** Reg. Trade Mark ◀ **LOOK FOR THESE MARKS** ▶ **Stienen** Reg. Trade Mark

# THESE NEW WORSTED TOP DYEING MACHINES IMPROVE QUALITY AND PRODUCTION

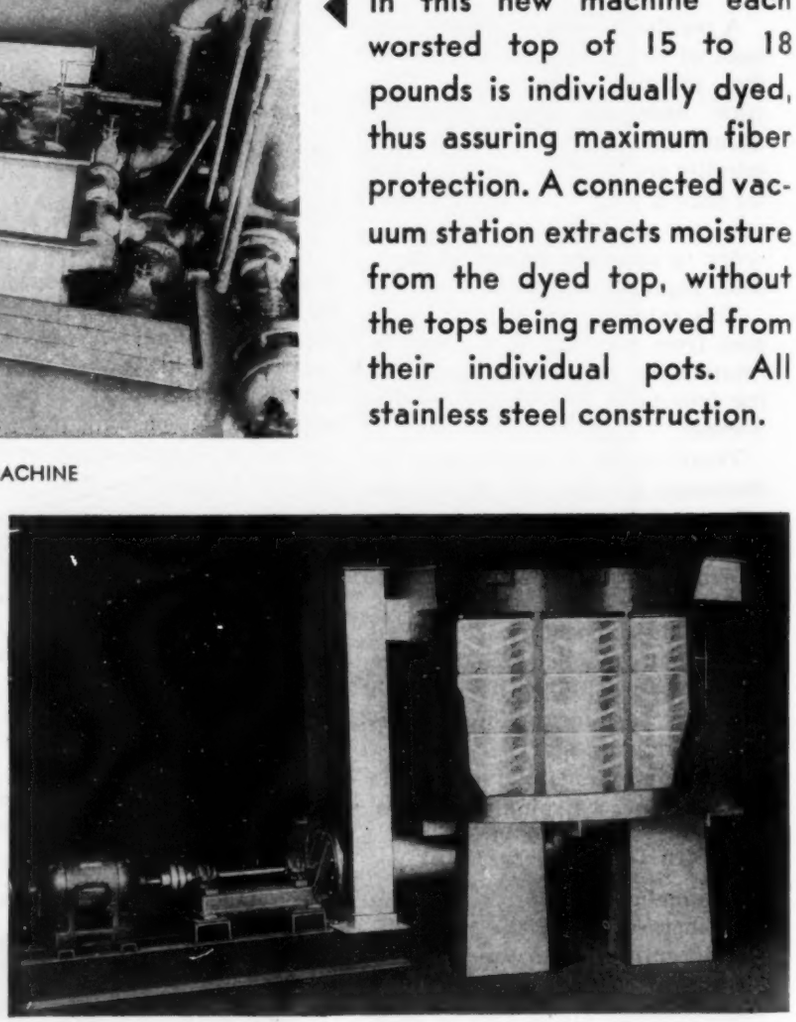


WORSTED TOP DYEING MACHINE

◀ In this new machine each worsted top of 15 to 18 pounds is individually dyed, thus assuring maximum fiber protection. A connected vacuum station extracts moisture from the dyed top, without the tops being removed from their individual pots. All stainless steel construction.

## ALSO THE LATEST SPINDLE SYSTEM WORSTED TOP DYEING MACHINE MODEL RAPR ▶

All Stainless Steel Construction, especially designed for dyeing worsted tops by spindle system. Processes tops of different dimensions or uniform dimensions at the same time, giving thorough penetration in either case.



WORSTED TOP DYEING MACHINE—SPINDLE SYSTEM, MODEL RAPR

## Standard • Fabricators

INCORPORATED

355 WALTON AVENUE NEW YORK 51, N. Y.

*BUILDERS OF*

**Cotton and Wool Dyeing Machines — for Beams — Packages — Raw Stock — Skeins — Rayon Cakes — Dye Spindles — Perforated Tubes — Centrifugal Pumps — Extractors and Dryers.**

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Paseo Colon 464
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BRAZIL
Escritorio Tecnico e Comercial
"Lodevico Lazzati Ltda."
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Sao Paulo, Brazil, S. A.

COLOMBIA
Fernando
Cabo Olozaga
Apartado Aereo 37-68
Bogota, Colombia, S. A.

INDIA
Associated
Textile Engineers
43 Forbes Street
Fort, Bombay, India

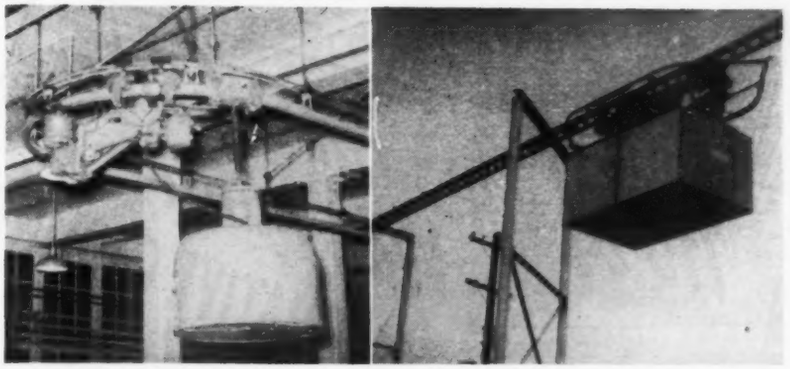
beam dyeing units has been installed; on this machinery, in addition to warp beams, it is possible to dye yarn in package form.

A continuous piece dye machine has been installed also.

### Plan Synthetic Plant

**Expansion.** Plans have been made for the erection of a synthetic spinning mill, which will be completed as soon as sufficient construction material and production machinery can be obtained.

According to C. W. Gunter, vice-president and general manager, the changing of the corporation's name from Mooresville Cotton Mills to Mooresville Mills was due to the latter having a better coverage title for all types of goods that will be manufactured in the future.



**Included in the modernization program at Mooresville are installations of overhead traveling cleaners in the spinning room (left), and an overhead materials-handling unit (right).**

## Lubrication

(*Continued from page* 84)

ference and accounted for the fact he was no longer employed as a fixer.

This incident turned out to be a very fortunate one for this mill: The management soon instigated a program for the training of their oilers and established lubrication as a policy of maintenance. Their savings in maintenance alone have more than justified the cost of the program and the time involved in setting up the program.

The case just related is an outstanding example of poor lubricant application, yet it illustrates what goes on in many instances not noticed in the actual work supervision.

We are fully aware that the average textile mill has thousands of bearings to be lubricated every day on every shift and that the task is stupendous, but we also know that a sound program of lubrication, properly supervised, will more than pay its way in improved maintenance and production results.

To incorporate lubrication as a policy of maintenance in your plant, we recommend your consideration of the following:

(1) Use accepted and advanced methods of training personnel to apply lubricants, and thoroughly train them for the job. In other words, why shouldn't a man be trained for this work just as much as any overseer or supervisor?

(2) Have supervision of lubrication under the mechanical department, to be directly supervised by a competent individual who has been trained for the job. Mills spend thousands of dollars to train operating personnel—why intrust the care of costly machinery to untrained and unskilled oilers? Would you allow an inexperienced and unskilled mechanic to work on your car?

(3) Properly handle, store, and dispense lubricants.

(4) Establish adequate application frequencies to meet your mechanical and operating conditions. In other words, use the right amount of lubricant, properly applied, and at the right time.

(5) Utilize semi-automatic and automatic lubricating devices where possible to reduce application frequencies, lower maintenance, and to provide a uniform supply of clean lubricant.

(6) Secure the assistance of a competent lubrication engineer in whom you have the utmost confidence, one who will aid you in selecting the correct lubricants and can recommend improved methods of application.

## Industrial's Maintenance Schedule

(*Continued from page* 93)

1257 looms are blown off each day by six men who specialize on this job.

### Cloth Room and Finishing

In the maintenance of cloth room and finishing machinery, we inspect the machines at regular intervals for defective parts and replace them as soon as found. One of the main things is to keep good blades in the calenders and emery wheels. Also, we watch the folders to see that we get the correct number of inches per yard.

We use stitchers, folders, press, Sanforizers, and finishers, and by keeping up regular inspections of these machines we do not have many maintenance problems to cause us worry.

We have pipe fitters who look after the plumbing and heating system. We inspect the piping at regular intervals for defects and replace those sections found defective. The electrical equipment is looked after by a senior electrician working under the master mechanic. He looks after all motors and wiring of all descriptions, replaces sections of wire and parts of motors where needed. We operate a steam generating plant for producing a portion of our current.

We check for defects during working hours each week and fix these on each week-end. We also blow off and clean our motors each week.

All buildings, both mill and village, are maintained by a construction foreman.

WAMSUTTA'S fame for quality is not accidental. It results from deliberate measures to assure a superior product. Important among these advantages is an AMCO Humidification and Cooling System.

By reducing excessive temperatures and holding humidity at correct levels—an easy routine with AMCO—ideal processing "weather" prevails in every department. Also important to efficient production is greater comfort for the worker.

Relative humidity is accurately maintained by introducing atomized water spray, and the frictional heat of high speed machines is absorbed by evaporation of this moisture in conjunction with carefully controlled air-flow. No expensive changes are necessary—no air ducts to install—no jump in maintenance costs.

What an AMCO System has done for many leading mills it can do for you. An AMCO engineer will gladly show you how you can modernize your plant simply and economically for better product quality with increased output.

## FEATURES OF AMCO HUMIDIFICATION AND COOLING

- Reduces excessive temperature and holds relative humidity at point best suited to fibre and process.
- Speeds production in high friction (heat) areas.
- Assures evener yarn counts and increases breaking strength.
- Gradually increases regain for good roving and consequent better spinning.
- Drafting of fibres smoother and more compact.
- Waste and fly greatly reduced.
- No cumbersome ducts to require cleaning and obstruct light.
- Easier to install—minimum disruption.
- High flexibility to meet changing room conditions.
- Minimum maintenance.
- Amco Evaporative Cooling utilizes your present humidification system.
- Increases worker comfort.

# AMCO

**HUMIDIFICATION and COOLING**

AMERICAN MOISTENING CO. AFFILIATED WITH GRINNELL COMPANY, INC., PROVIDENCE, R. I. • BOSTON • ATLANTA • CHARLOTTE

# PALATINES for wool

## PALATINE FAST DYESTUFFS

...offer the lowest coloring costs for quality results.

...have chrome color fastness (without the addition of chrome) by simple acid dyeing process.

...are fast to light, washing, perspiration, crocking, sea water and wear.

...are level dyeing on mixed wool and carbonized goods without neutralization—with excellent penetration. Most types are dischargeable with Rongalite.

...are particularly suitable for men's wear, dress goods, gabardines, tropical worsteds, cloakings, bathing suits, knitting yarns, carpet yarns and tops.

...on Nylon give maximum fastness to light and washing. The method of application is simple and the results are excellent.

GDC

more production with less manpower

**GENERAL DYESTUFF CORPORATION**

FOUR THIRTY-FIVE HUDSON STREET · NEW YORK 14, N. Y.

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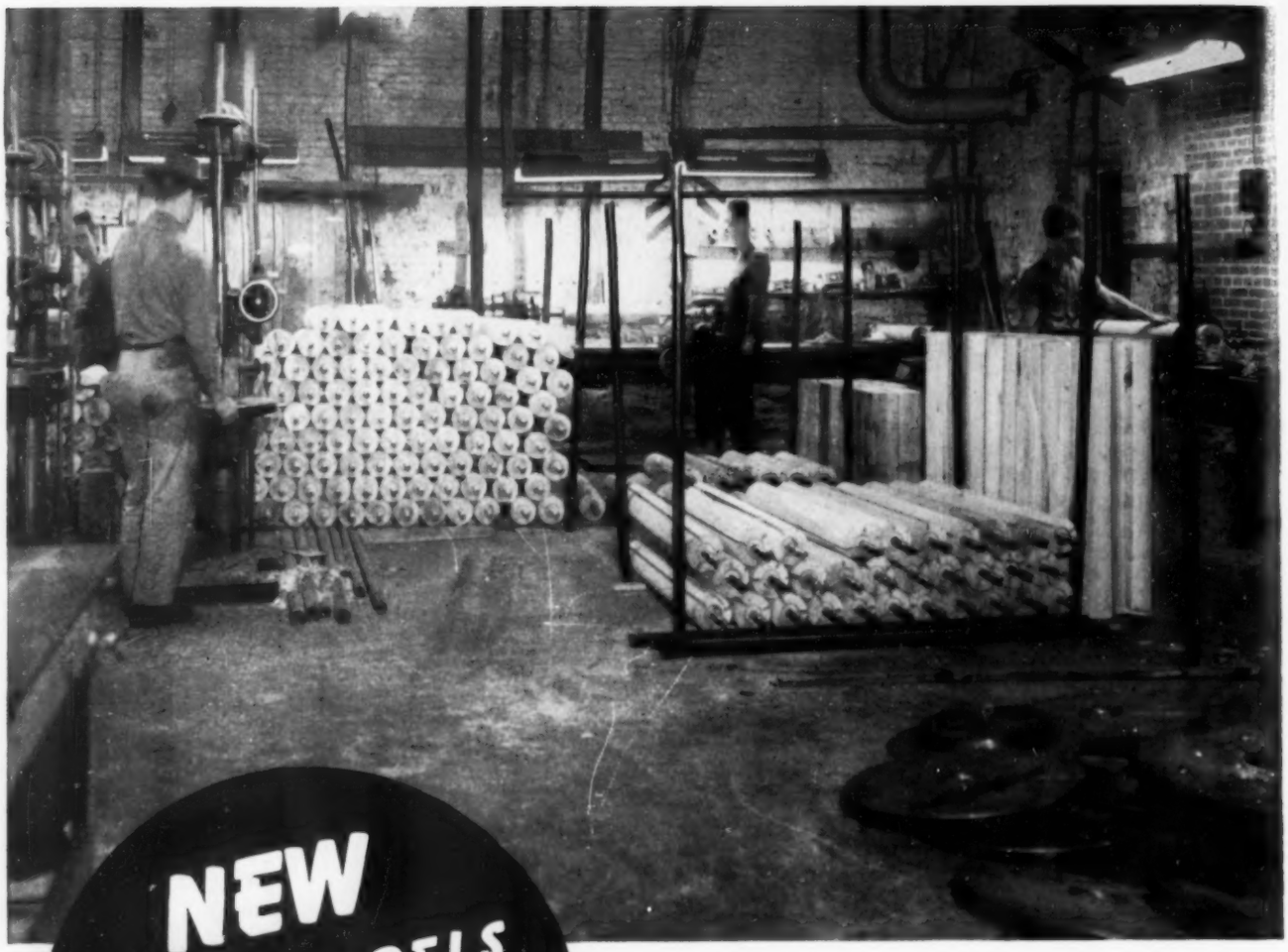


# NEW BEAM BARRELS and LARGER BEAM HEADS

## For More Efficient Operation

Replace old, worn beam barrels with new barrels that will increase operation efficiency and save waste. West Point Foundry and Machine Company manufactures beam barrels of the finest woods available—expertly machined—carefully seasoned.

Switch to larger beam heads and cut time required for slashing, tying-in, and placing beams on the loom. Larger beam heads soon pay for themselves by cutting cost and speeding operations.

For greater efficiency at lower cost let us replace your worn equipment with new, time-saving installations.

*Manufacturers*

**OF SPECIAL TEXTILE MACHINERY, SLASHER EQUIPMENT, TEXTILE REPAIR PARTS**

**WEST POINT FOUNDRY & MACHINE CO.**

*(Batson-Cook Company, Owners)*

**WEST POINT, GEORGIA**

# Clover Spinning Mills

ALTHOUGH SOME MILLS have not been able to modernize due to non-delivery of equipment that has been on order for several years, Clover Spinning Mills, Clover, S. C., seems to have hit the "Jackpot" in regard to new machinery.

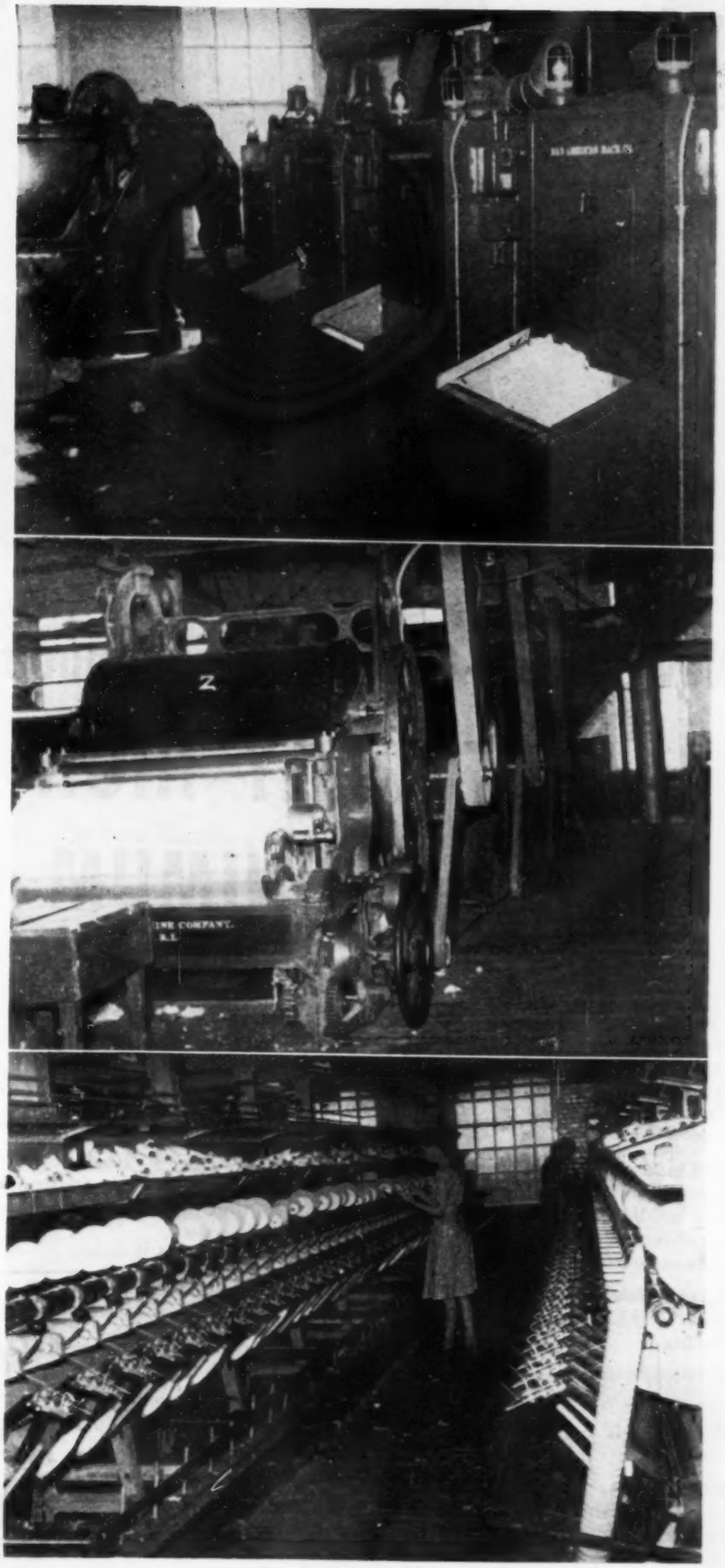
This progressive plant that spins high-grade combed yarns is presently engaged in revamping all processes where it is possible to get delivery on new machinery. During the past year several units of new machinery have been received and installed.

**Pickers.** Two of the latest model one-process pickers have been installed, complete with blenders. This new machinery replaces less efficient equipment.

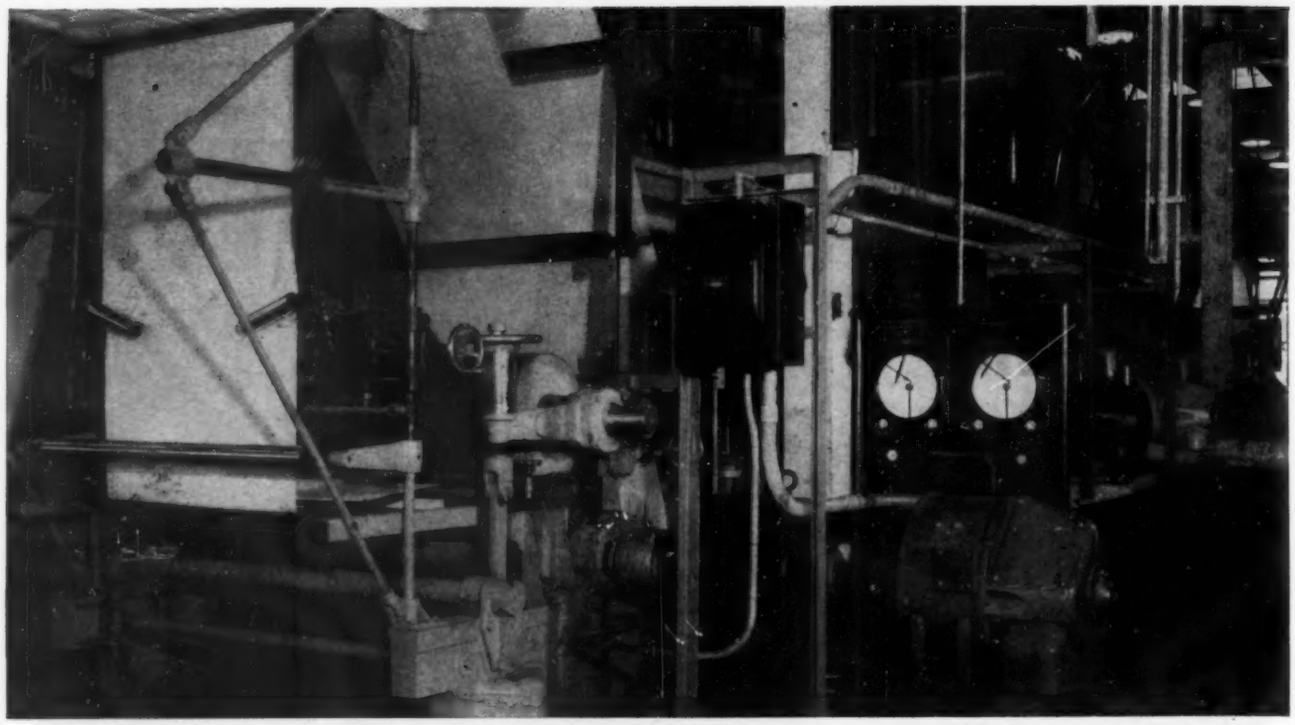
**Combers.** Continuing their modernization of the carding department, this plant has obtained four new combers. These machines are said to be the "last word" in modern mechanical processes; they will contribute toward increasing production at this plant.

**Winders.** The spinning mill has obtained eight new winders during the past year.

All of the new machinery which has been received or is on order is in line with the company's principle of keeping abreast of the times and being better prepared to face competition.



**Views at Clover. Top, blending feeders; center, picker room; lower, winding equipment.**



# New Taylor-Controlled Continuous Dye Unit Assures

# UNIFORMLY HIGH QUALITY at MINIMUM COST

THE Taylor Instruments you see here put the personal touch into this whole continuous dyeing operation in one of the world's largest textile mills. Development of dyed cloth takes place as it is fed in and out of a number of baffles within the Williams Dye Unit. And here's how Taylor Accuracy guides the process:

1. **Close control of temperature** and liquid level in dye pad box. This helps to assure uniformity of shade, and minimum dye consumption due to prevention of overflow. In fact, this latter feature can save the cost of the controller in a relatively short time.

2. **Individual temperature control** on dual Williams units gives complete flexibility for different types of dyeing.

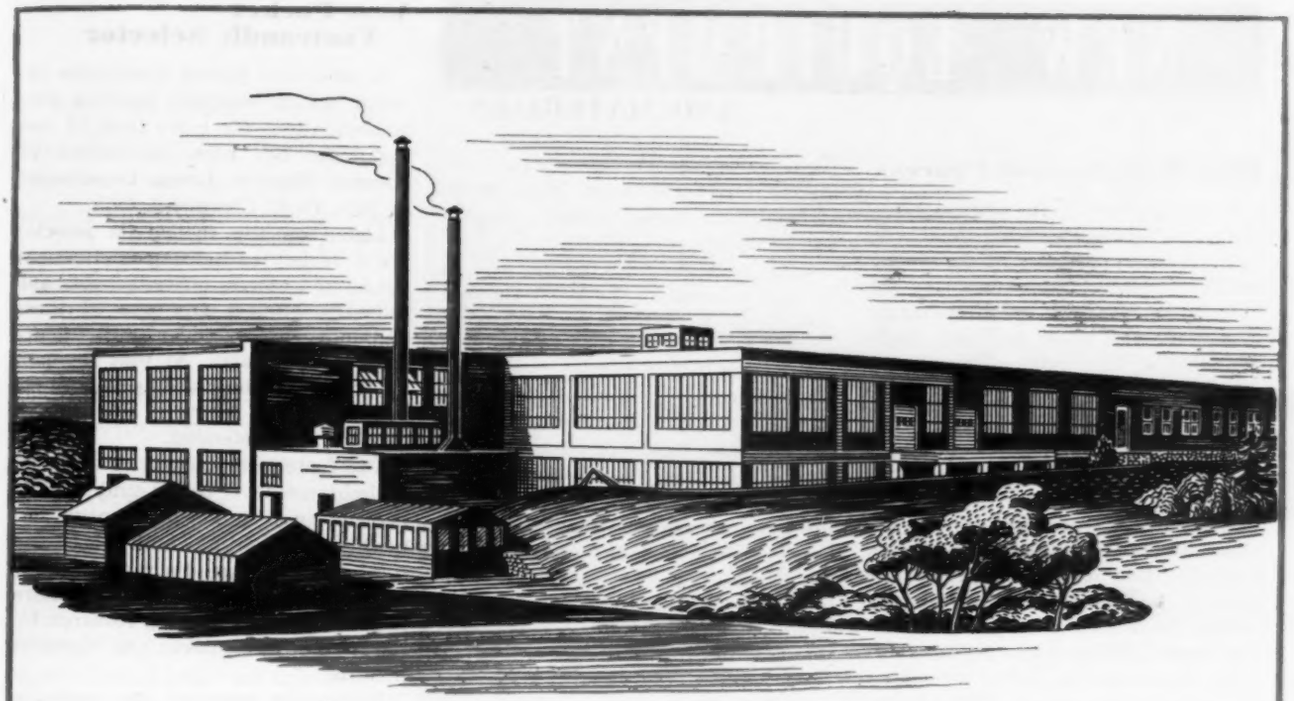
3. **Temperature control** of dye liquor in dye mixing tanks can be included.

4. **Controls on washers** maintain desired temperatures and assure minimum steam consumption.

**REMEMBER:** Taylor Control Systems are applicable not only to the Williams Dye Unit—but to any type of continuous dyeing unit; also to package dyeing, piece dyeing, hosiery dyeing—and so on through the book. All draw this Taylor challenge: Show us a method of dyeing and we'll show you how Taylor Controllers can run it automatically.

**MORAL:** Let a Taylor Control System revive your dyeing profits! When you're ordering dyeing equipment, specify "Taylor-Equipped As Usual" or ask your Taylor Field Engineer. Taylor Instrument Companies. Rochester, N. Y., and Toronto, Canada. *Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.*

*Taylor Instruments*
MEAN
ACCURACY FIRST
IN HOME AND INDUSTRY



# HEADQUARTERS FOR SIZE

THE FACT that we are the nation's largest producers of sizing is important only as indicating the superior qualities of SEYCO Sizing in textile production.

SEYCO Sizing is scientifically formulated to produce a tough, elastic, pliable film, which lays the fibers smoothly; reducing friction, breakage and shedding to the minimum.

SEYCO Sizing is sufficiently anchored by proper penetration, but is easily removed. Its deliquescent feature protects against over-drying. SEYCO Sizing is the result of more than 40 years experience and constant research.

Many mills tell us that SEYCO Sizing makes for fewer interruptions in production and greater uniformity of product.

Our technical service men, backed by our large modern laboratories, will gladly cooperate with you in getting best results from SEYCO Sizing.

Write today for full information about the revolutionary Niagara Twist-Setter. *No moving parts.* Use it with SeyCo Penetrants for best performance.

## SEYDEL-WOOLLEY & CO.

TEXTILE CHEMICALS

748 RICE STREET • ATLANTA, GA.

SEYCO

PENETRANTS • SIZING • SHUTTLE DRESSING • SOFTENERS • ALKALIS
• TWIST SETTER MACHINES •

# NEW EQUIPMENT
## AND MATERIALS

### DDT Moth Control Process

A process to prevent moth damage to clothes by impregnating them with DDT has been perfected by the Whitemarsh Research Laboratories of the Pennsylvania Salt Manufacturing Company and soon will be made available to the public through dry cleaners, according to a recent announcement.

The new method involves a mixture of DDT and an adsorbent powder and a pump percolator machine which dissolves the DDT in just the right amount in the dry cleaning solvent. The machine sprays this solution on the clothes in the dry cleaner's extractor in such a way that the treating solution thoroughly saturates the garments, so that after drying, minute amounts of DDT are deposited on nearly every fiber.

After testing numerous possible methods of applying DDT to prevent moth damage, this was the only one found completely satisfactory both from an application and control standpoint, the announcement said. Both the machine and the DDT product, to be known as Erustomoth, were developed in the laundry and dry cleaning laboratory at Whitemarsh. The U. S. Hoffman Machinery Corp., of New York, now is designing a machine for mass production for dry cleaning plants.

Tests show that the DDT actually kills or repels insects, such as clothes moths, carpet beetles and silver fish that venture to attack garments.

It is said that DDT applied by the Erustomoth process protects clothes from insect damage between even infrequent dry cleanings. Most of its strength is retained through a number of washings.

Tests indicate that the cloth is in no way injured by the DDT. Colored fabrics show no indication of color change and no more tendency to fade than untreated samples. No odors were detected in treated cloth and the DDT produced no change in tensile strength, "feel," or other physical characteristics.

One of the biggest advantages of the new process, said Pennsalt scientists, is that the insecticide reaches all parts of the garment, assuring protection in seams, cuffs, linings and paddings and other parts seldom reached by insect sprays or other moth control systems.

**Upper photo, sample of 100% wool fabric, not impregnated with DDT, was placed in a Petri dish with 10 hungry carpet beetles. The damage shown here took place in a standard 28-day test. White specks in the glass are excrement of the larvae, indicating how much of the wool has been eaten. Center photo, total destruction of the sample in the upper photo, the beetles being allowed to eat their fill of wool. Lower photo, DDT drives away beetles. A sample of 100% wool fabric was treated with Erustomoth and placed in the dish with the beetles for 28 days. The clear glass around the sample indicates that none of the wool has been eaten, proving that the beetles refuse to feed on wool impregnated by the DDT.**

### Vest Pocket Footcandle Selector

A new vest pocket footcandle selector which indicates lighting recommendations for more than 75 seeing tasks has been announced by General Electric Lamp Department at Nela Park, Cleveland, Ohio.

Listed on the footcandle selector are a variety of lighting applications for homes, stores, office, schools and industry. Select any one of these and move a tiny lever until an orange dot appears. At that moment an arrow will be pointing to a number on a scale which is the amount of light recommended.

The footcandle selector is designed to help create a better understanding and appreciation of quantity and quality of lighting with ease and comfort of seeing. Its recommendations are said to be based on more than 30 years of lighting research by the Lamp Department of General Electric.

Footcandle selectors are available at ten cents each through any of the Lamp Department's 18 district sales offices. Provision is made for imprinting the containing envelope with any desired message or signature, at slight cost.

### 125-Watt Infrared Industrial Lamps

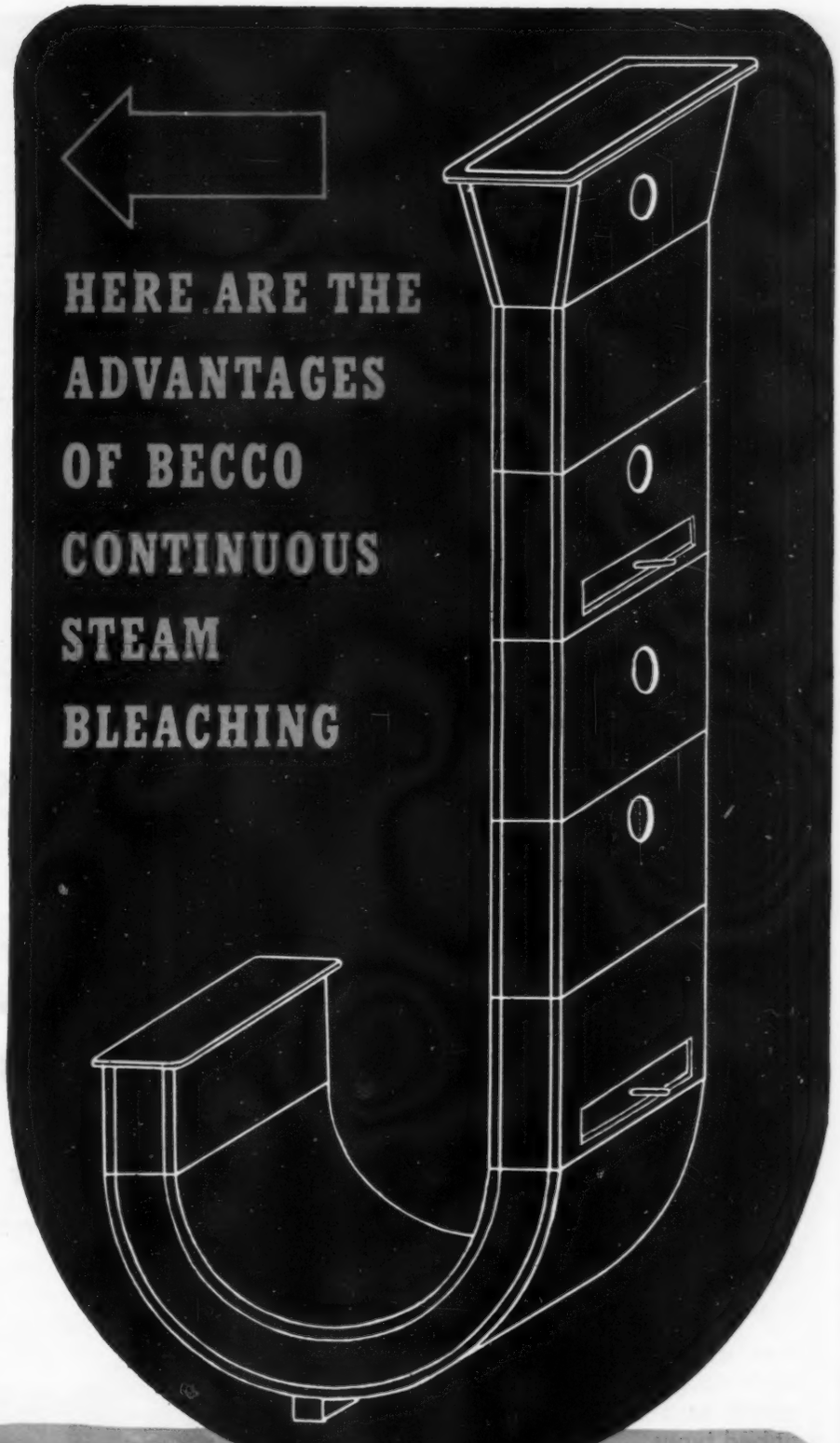
Two new 125-watt infrared industrial lamps have been announced by the General Electric Lamp Department, Nela Park, Cleveland, Ohio.

One of the new lamps is equipped with a G-30 bulb, and is designed especially for use in open reflector ovens. It has a medium skirted base, 5-inch light center length, and fits infrared reflectors now in general use.

The other new lamp has an R-40 reflector type bulb and a medium skirted base. Average laboratory life for both lamps is reported to be rated in excess of 5,000 hours.

Designed to be used interchangeably with the 250-watt and 375-watt G-30 and R-40 lamps, the new models are especially suited to oven applications where it is desired to maintain a given lamp spacing and distribution of radiant energy, but where temperature required is considerably less than that provided with the 250-watt lamps. They have advantages for pre-heating, for balancing temperatures in ovens where an even heat is required, or for use on finishes which might be harmed by a greater energy density, according to the manufacturer.

# HERE ARE THE ADVANTAGES OF BECCO CONTINUOUS STEAM BLEACHING



● With the Becco Continuous Steam Bleaching System there is a substantial saving in equipment because two "J" Boxes will do the equivalent work of nine kiers. There is a saving of up to 55 per cent in floor space. Savings in steam up to 75 per cent are effected. In kier boiling, if the bleach is unsatisfactory, there is a time loss of 18 to 24 hours. In the Becco system, inspection windows in the "J" boxes permit checking at any stage and each yard of goods is bleached in approximately two hours. Savings up to 40 per cent in the cost of chemicals and labor are achieved.

Remember, too, that Becco Hydrogen Peroxide is easy to handle. Shipped in tank cars or drums, it can be pumped quickly and directly to the point of use.

Becco Engineers and Chemists have had many years of specialized bleaching and processing experience. Why not request that they make a survey of your plant and advise as to the most efficient method of bleaching for you to use, regardless of the volume of textiles bleached? You will be under no obligation. Simply write to:

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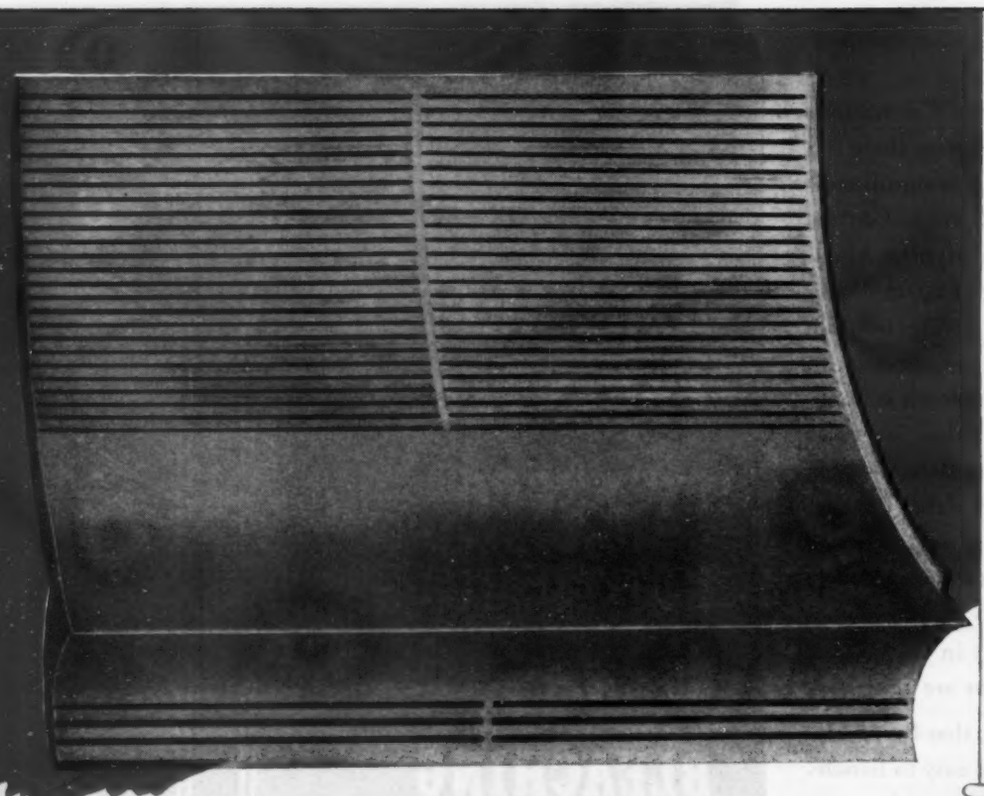

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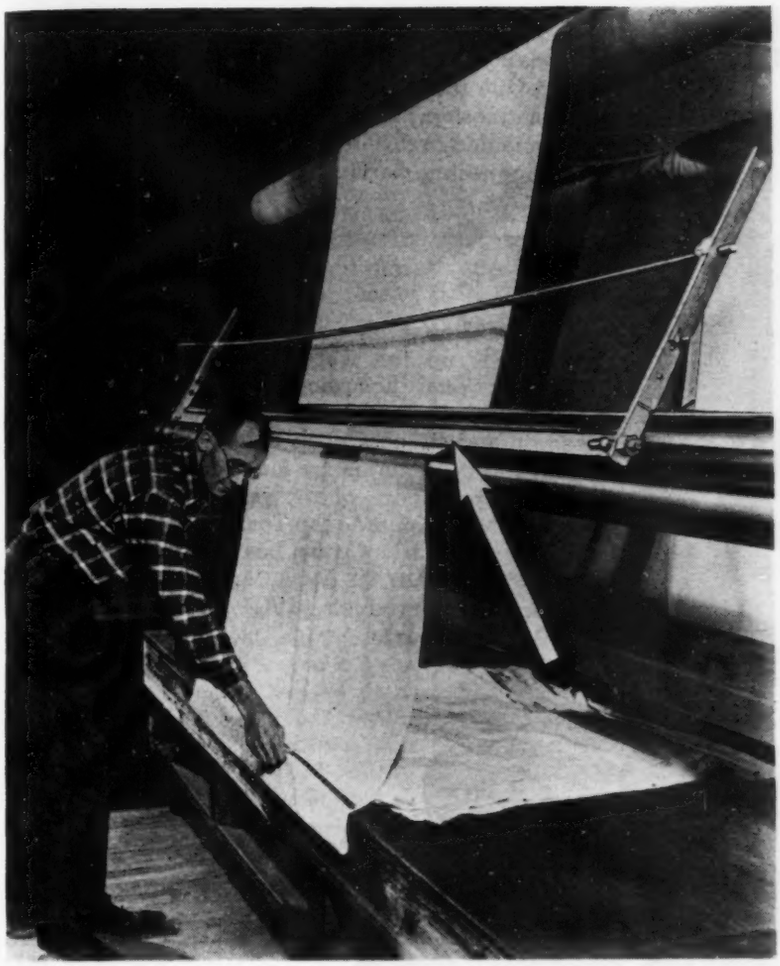
Jenkins takes deep-rooted pride in its reputation for quality workmanship. Close identity with the industry for over a quarter of a century makes us fully conscious of the importance of *building* and *rebuilding* card screens to standard specifications to assure perfect "setting".

Expanded production facilities enable us again to give prompt service on new or rebuilt card screens . . . perforated or ribbed types . . . also on picker and waste machine screens.

# JENKINS METAL SHOPS, INC.

GASTONIA, NORTH CAROLINA



Ionotron, new type static eliminator, in use on folder.

## Static Eliminator

Cloth swing stoppages in the plant of the Triangle Finishing Corp., Johnstown, N. Y., have been reduced 20 per cent by installation of a new type static eliminator, according to Irvin Land, superintendent of folding and shipping at Triangle.

In addition, the eliminator, known as the Ionotron, has made possible better cloth folding due to the fact that there is less static electricity in the cloth, Mr. Land said.

The static eliminator, manufactured by U. S. Radium Corporation, 535 Pearl Street, New York City 7, consists of a shielded bar with a radioactive alloy strip positioned over the cloth at the point where the static charge tends to build up. The air at this point is ionized by the alpha rays from the radioactive source. This ionized air acts as a conductor to remove the static charges as they are generated, so there can be no attraction-repulsion effects, or sparking.

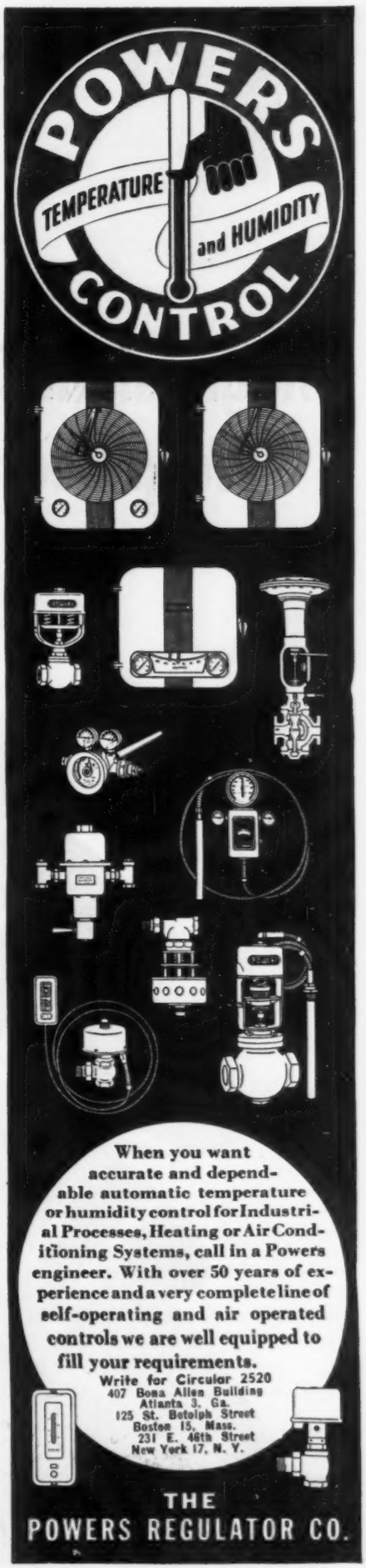
Installations are said to have proved beneficial to production in other textile plants, on the Peralta clearing device and the tape condenser of wool carding machines.

The Ionotron operates continuously without a power source and its action is permanent, as the radioactive source is said to lose only 50 per cent of its alpha-ray generating power in some 1,600 years. As designed into its shielded supporting member, the active source is highly directional, so that radiation effects are non-existent or negligible except at the point desired.

## Stainless Steel Poteye

Rodney Hunt Machine Co., Orange, Mass., has developed a new seamless poteye made of 18-8 stainless steel, with a smooth, satin-like finish, which is said to be unbreakable.

Once put in use it will probably never need replacing, according to the announcement. Its first cost is higher than conventional porcelain or phenolite poteyes, but due to the indestructability of this new poteye, it is claimed that the first cost is the last cost.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# Magnesium Tricot Warp Beams

. . . For example. They're time savers. Their extremely low weight speeds up the warping operation. Their permanent dimensional accuracy reduces vibration, lowers maintenance costs.

High strength and stiffness enable them to withstand the tremendous forces exerted by modern yarns. They mean more yards per hour—of any yarn.

For a copy of "Magnesium in the Textile Industry", or for a quotation on your tricot warp beam requirements, write ALUMINUM COMPANY OF AMERICA, sales agent for American Magnesium products, 1704 Gulf Building, Pittsburgh 19, Pennsylvania.

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## Micromet Feeders

For a commercial, institutional or industrial establishment having corrosion or scale water troubles in hot water or cooling water systems, Calgon, Inc., 323 Fourth Ave., Pittsburgh, Pa., has developed a new series of Micromet feeders by which the chemical can be fed into the water lines with simplicity and low cost, according to a recent announcement.

The new series consists of large-type feeders holding up to 20, 50 or 100 pounds of Micromet at one charge. The chemical dissolves slowly, rate 25 per cent per month, so that only that much of the initial charge needs to be renewed each month.

The amount of chemical required and the size of feeder depend on the type of water trouble encountered and the amount of water to be treated. For corrosion the 50-pound feeder, for example, will handle up to 150,000 gallons of water per month. For hard waters producing lime scale it will handle up to 300,000 gallons. The larger feeder will handle up to 1,000,000 gallons of scale-producing water per month. The smaller type feeders will handle as low as 3,000 gallons per month.

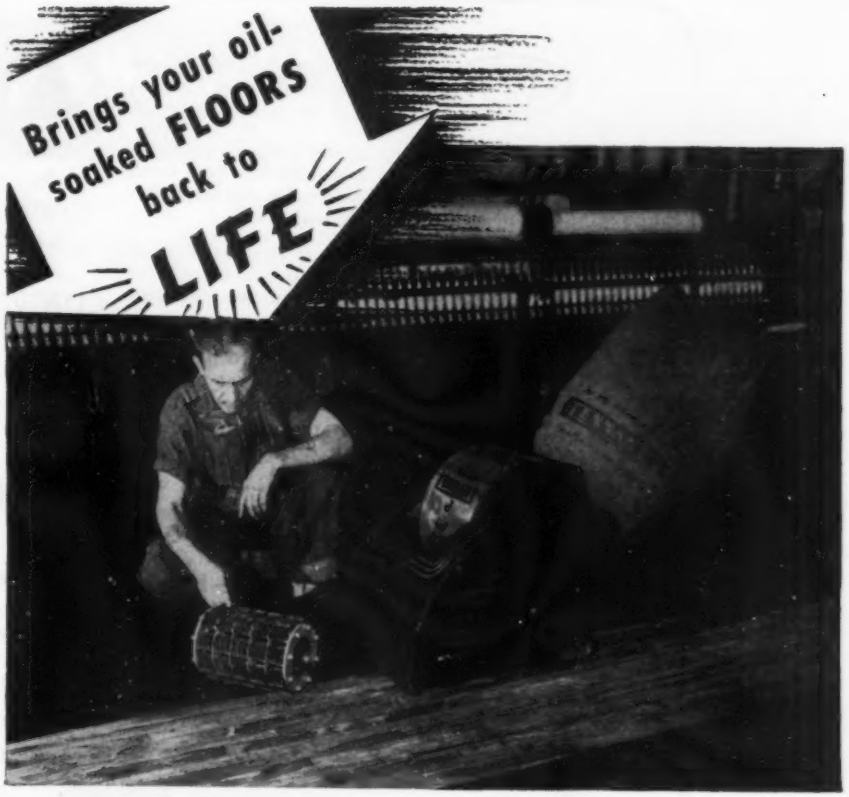
The feeders are described as simple in design, inexpensive and have no upkeep cost. In no way does it affect the taste or potability of water used for drinking or cooking, according to the manufacturer.

## Labor Manual For Supervisors

In the new and compact 100-page second edition of *The Federal Labor Laws* supervisors can find simple answers to hundreds of questions about labor statutes, according to National Foremen's Institute, Deep River, Conn., publishers of the manual.

The manual is written in popular instead of legal terms and explains the important aspects of the Wagner Act, the Wage and Hour Law, the Walsh-Healey Public Contracts Act, Unemployment Compensation and Old Age and Survivors Insurance, the Employment Service, the GI Bill of Rights, Veterans Reemployment and Seniority Rights, etc.

*The Federal Labor Laws* is a loose-leaf manual which can be kept up to date with the insertion of supplements and substitute pages, which are prepared by the Institute and sent out to owners of the book whenever important changes are made in the laws.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Clean, dry, hard floors—maintained by *dry cleaning*—increase your mill's efficiency. They improve working conditions, boost employee morale and promote safety.

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*Consultants* to the Textile Industry

# How OTHER MEN Manage

## Roving Winding Around Cork-Synthetic Aprons

**Question briefed:** *What causes excessive breakage of roving and the winding of this roving around cork-synthetic aprons, when spinning 36s combed yarn, using 2.50-hank roving, 1 3/32-inch cotton, doubling 2 before drafting, and drafting approximately 28? (Contribuor No. 7856—January, 1947).*

EDITOR TEXTILE INDUSTRIES:

It is my opinion that if this reader will close up on his rolls and reduce the draft, this trouble will be eliminated.

We manufacture fine combed yarn and once used 2.5-hank roving for manufacture of 30s yarn, doubling 2 before drafting; the result was that the spinning ran so badly all over the plant that we had to change every frame.

His break draft might be too great also.

CONTRIBUTOR No. 7858

◆

EDITOR TEXTILE INDUSTRIES:

We believe that it might be a good idea to change the break draft slightly, or reduce this gear one tooth. We once had some difficulty along this line and used a gear one tooth smaller.

If CONTRIBUTOR No. 7856 has a small slip roll that is too heavy, this will cause the roving breakage.

It would be a good idea for him to check the oil angle. We also suggest that he check for excessive relative humidity in the card room.

We believe that the excessive break draft is a very important factor contributing to his problem.

CONTRIBUTOR No. 7859

EDITOR TEXTILE INDUSTRIES:

If CONTRIBUTOR No. 7856 will check his roll settings, he will probably find this to be the trouble.

The finish on the aprons might be worn off and, if this is the case, the manufacturer will refinish the aprons without any cost.

There might also be too much twist in the roving. This, together with incorrect roll settings, would cause the ends of the roving to be "wild" and flare up at the ends, making it easy for them to wrap around the apron as it turns.

CONTRIBUTOR No. 7860

EDITOR TEXTILE INDUSTRIES:

This trouble can be due to excessive humidity and, in some cases, not enough.

It is also possible that some oil is getting on the rolls and aprons when oiling the frames.

We have had instances of roving coming through and wrapping around the cork-synthetic aprons. The traverse might not be set correctly and, if not, this will result in the roving breaking and wrapping around the aprons. It is a good idea to check traverse on each frame after a change from coarser to finer yarn. This is especially true when making a change to cork-synthetic rolls and aprons.

All weighted rolls should be checked also.

CONTRIBUTOR No. 7861

## Picker Room Regain Control

EDITOR TEXTILE INDUSTRIES:

There are some mills that have difficulties in connection with the amount of moisture that the cotton will regain after being opened.

This excessive regain often makes sizing of roving and yarns inaccurate. This is a very important point to remedy where customers demand yarn and cloth that is free of too much "water".

There is no getting around the point. Most of the large purchasers of yarn and fabrics have testing departments where the products that they buy are "taken apart" to ascertain that the actual weight of spun and woven material is being obtained without an excessive amount of water in it.

We conquered this excessive moisture regain problem by using an instrument in our picker room that automatically registers the amount of moisture in the cotton. This device is in use in many mills, but we have observed that there still are plants that do not have them; for their benefit we shall outline the operation of the device.

The instrument has a container on the left side for about one pound of cotton. On the right side is a scale with figures running successively from 3 to 14. The total weight of moisture represented between the figures 3 and 14 is from 1½ to 2 pounds. The scale on the lap weigher contains these figures along with the ones designating the number of pounds that a lap weighs.

The cabinet section of the instrument contains a pair of scales that is very sensitive and balanced in a special oil.

We replace the cotton in the container, which resembles a hair net, once a month. This cotton rests on the delicate scale and registers the regain of moisture.

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If the scale registers 8 when a lap is doffed (we make laps weighing 40 pounds), the weight of this lap should be 40 pounds plus the figure 8 on the regain dial which is also attached to the face of the lap-weighing scale.

If a lap from the picker weighs over or under the standard, which is 40 pounds plus the regain indicated on the instrument, we adjust the evener motion on the picker accordingly and set this abnormal lap aside.

This method insures the full amount of cotton being in the yarn and cloth, and eliminates the disagreements with good customers who are rapidly becoming better informed as to the contents of our product.

CONTRIBUTOR No. 7847

## Cotton Between Cylinder and Side on H & B Cards

EDITOR TEXTILE INDUSTRIES:

As a reader of your columns and a carder of long experience, I should like to comment on the question regarding cotton collecting between the cylinders and sides of frames on 40-inch H&B cards. The question was asked by CONTRIBUTOR No. 7791 and appeared in the September issue.

Cards are not set properly if cotton gathers between the sides and cylinders. The setting is uneven on each side. Also lumps forming on the screens will cause the air current to blow cotton out the sides.

By setting the screens identically alike on each side of the card, it will eliminate most difficulties in regard to cotton gathering between the cylinders and sides of frames.

CONTRIBUTOR No. 7826

EDITOR TEXTILE INDUSTRIES:

We had one card that gave this trouble. The clothing on this card was damaged. Cotton came out the sides before new clothing was put on. This old clothing was flush with the edge of the cylinder.

When putting on the new clothing, we kept about 1/16-inch away from the edges on each side and did not have any more trouble as described.

CONTRIBUTOR No. 7827

# Card Sliver Reducer

EDITOR TEXTILE INDUSTRIES:

I would like to ask your readers for comments on what causes the variations in the weight of sliver produced with the card sliver reducer as compared to slivers made with card calender rolls.

We manufacture sheetings and bedspreads, using 14s warp and filling from 16s to 22s. All of our cards are equipped with the card sliver reducer.

We run the slivers through one process of drawing, one roving process, thence to the spinning frame. This reduction in processes is worthwhile, but variations exist.

We have a 60-grain sliver produced at the doffer and this is reduced to a 30-grain sliver, or should be when it is passed through the card sliver reducer which takes the place of the regular calender rolls.

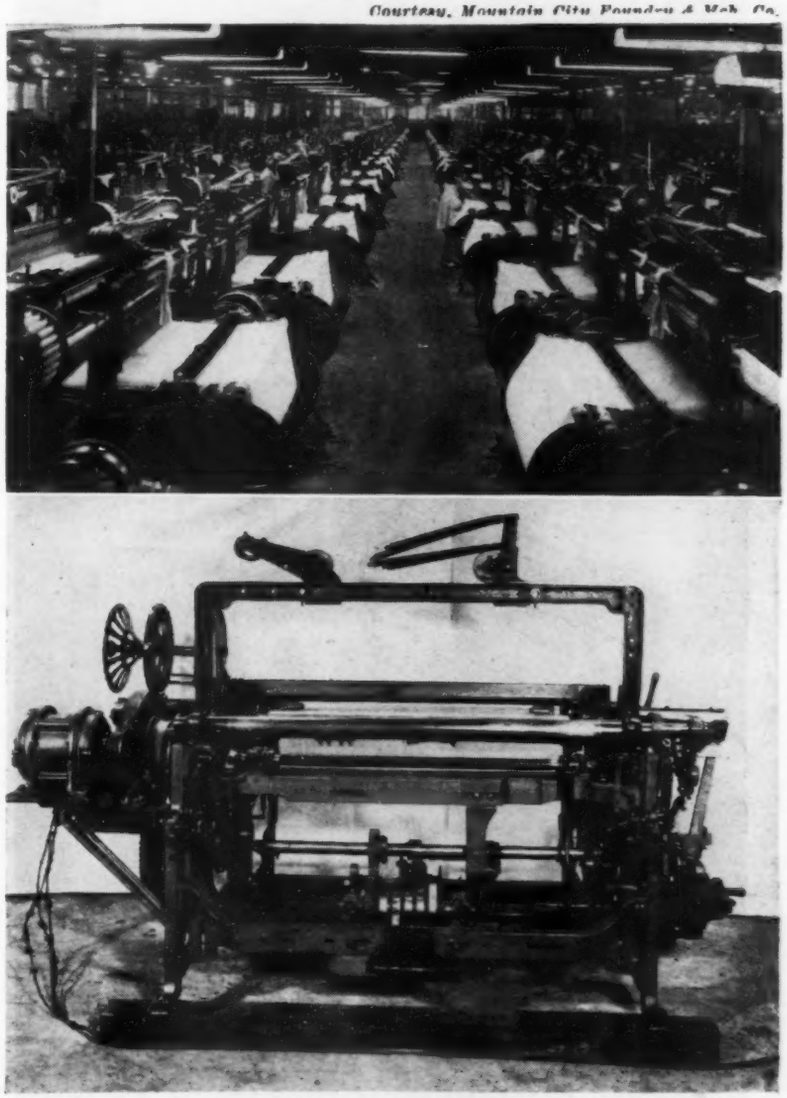
We have weighed many of the supposedly 30-grain slivers for tests and find that they vary from 29.5 grains per yard to 34 grains per yard.

Any comments that will result in the elimination of this variation in weight of slivers at the card will be appreciated.

CONTRIBUTOR No. 7846

**Upper photo, weave room at Mills Mill, Woodruff, S. C. The 40-inch E-Model looms are equipped with spreaders. The lower photo shows the spreader in place on the loom.**

*Courtesy, Mountain City Foundry & Mch. Co.*



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A.C. LAWRENCE LEATHER CO.
TEXTILE LEATHERS
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### Finishing Plant

*(Continued from page 104)*

We keep this trough full of old transmission oil.

The two rubber squeeze roll ball bearings are greased every three weeks.

The cloth is then bleached on an eight and five compartment washer, then dried. These washers are greased at the same time as the other similar type washers. The squeeze rolls on these washers are systematically replaced with a spare set and ground.

The winding machine is blown off every week and greased every three weeks. The pigment padder bearings are greased every three weeks. Rolls on this machine are checked for side-to-side and side-to-center shading every morning.

Between sets, the rolls are revolved when the machine is empty, to keep from flattening the rolls. When rolls need to be ground, the whole machine is dismantled, each bearing is cleaned, inspected, and a spare set of rolls is installed.

#### Dye Jigs

The bearings on dye jigs are greased every three weeks, and the motor reduction gear box is drained and replaced with oil every three months. Each jig is equipped with automatic temperature controls, which are checked every morning by a hand thermometer.

Immersion roll bearings are carbon and last indefinitely.

The soaper is a five compartment washer that is maintained in the same way as the other washers. The finishing dry cans are equipped with ball bearings and pressure joints. The bearings are greased every week with high temperature grease; at the end of the week all vent valves are inspected to check for any sticking.

The starch box squeeze roll ball bearings are greased every three weeks.

#### Sanforizer

The Sanforizer cylinder bearings are equipped with constant level oil cups that are kept full by operators. If any oil cup stays full, it is taken off and cleaned.

For inspection purposes, the flange covering the cylinder bearings was cut in half and the inside shoulder of the top half was machined off. By this method it is only necessary to take out three bolts and lift the half flange off in order to inspect bearing. Before this was done, in order to inspect bearings the joint and pipes had to be dismantled.

All gear boxes are kept up to oil level so that the gears run in oil at all times. All other ball bearings are greased once a month.

If the cylinder gets scored by shoes it is immediately ground.

Blankets are removed and turned every 400,000 to 500,000 yards. A set of new shoes ready for installation are kept in stock.

Each machine in the plant has air guiders that are inspected regularly by operators. When a guider causes trouble, it is immediately removed and a spare set installed.

All truck wheels are kept free from strings that might wrap around them and are oiled regularly. While the plant is in operation, any steam leaks, faulty valves, or plant building faults, are noted and immediately repaired when plant shuts down.

All motors are blown out every three months, and electricians keep them lubricated on a definite schedule.

### Napper Room

The napper room machinery consists of double action planetary nappers. The napper rolls are equipped with ball bearings, which are greased every two months. All other bearings were oil ring bearings, and all were converted to grease bearings except the main shaft bearing. Pipes were attached to each bearing with a pressure fitting on the end. Now the bearings are greased every two months; formerly they had to be oiled every eight hours with the napper being stopped. The main bearings on one napper have a chain, instead of an oil ring, and have oil drip cups that supply the bearing for eight hours.

The main bearings on another napper are oil ring bearings that are oiled once a week. The clothing on the nappers are ground when necessary. Formerly, the

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rolls had to be carried to the stationary grinder, but by equipping the grinder with a motor and wheels, the grinding is done right at the napper. All rolls are stripped and reclothed when necessary.

### Cloth Room

Cloth room machinery consists of inspecting machines, brushers, folders, winders, and tenter frames. The inspecting machines and winders are oiled every morning. The brusher is cleaned out once a day when operated for one shift; ball bearings on the brush and sand rollers are greased every three weeks.

The tenter machine bearings have oil drip cups that are kept full at all times. The pattern straightener on the frame is kept at oil level at all times.

## ACMA to Hold 51st Meeting in Augusta

The American Cotton Manufacturers Association will hold the 51st annual meeting at the Sheraton Bon Air Hotel, Augusta, Ga., on May 1-3, 1947. The regular board of government meeting will be the night of April 30.

During the three-day meeting the mornings will be devoted to business sessions and the afternoons and evenings to entertainment; ample time will be provided from business for golf, skeet shooting, style show, banquet, and special entertainment for the ladies.

## Berkshire Associates Announce Scholarships

Leslie B. Coombs, principal of the Bradford Durfee Technical Institute, has reported the completion of an arrangement whereby the Berkshire Fine Spinning Associates will send eight or ten young men from their organization to study textile engineering at the Institute next September.

The winners of these scholarships will be selected by the officials of the Berkshire Company on the basis of their personnel records. They will be required to meet in full the entrance requirements set by the Institute.

CALCOFAST Wool Blue BN is one of the outstanding colors in Calco's line of metallized dyes for wool. It produces a full-bodied shade of blue with excellent fastness to light, washing, perspiration, crocking, sea water, and dry cleaning.

Calcofast Wool Blue BN is recommended for use alone, or in combination with other Calcofast wool dyes, for high quality wool fabrics—especially ski suits, bathing suit yarns, beach apparel, carpets, steamship and airplane fabrics.

Ask your Calco representative for full details. CALCO CHEMICAL DIVISION, AMERICAN CYANAMID COMPANY, Bound Brook, New Jersey. New York, Chicago, Philadelphia, Boston, Charlotte, Providence.

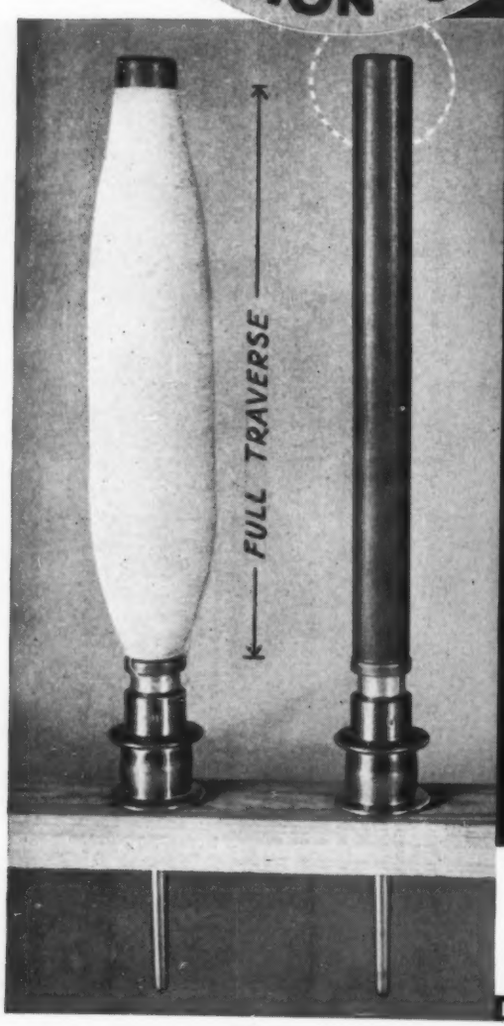
*Trade-Mark

*Reprints of this advertisement suitable for framing and without text will be sent on request.*

# New

# SONOCO STRAIGHT SIDE WARP SPINNING BOBBIN

Another SONOCO First—our latest development in a warp spinning bobbin that drives from the top at high speeds without vibration . . . A "straight side" bobbin that permits use of full traverse.




The above illustration details the "steep-taper" of the "cushion-grip," an integral part of the SONOCO Bobbin which fits the spindle with slight squeeze to form the "top drive" contact. This contact breaks sharp and easy with no drag or pull in doffing.

*Better results is the Pay-off*

Mill run tests have shown fewer ends down at higher speeds because of uniform seating and level running. No corrugations make it easy to strip.

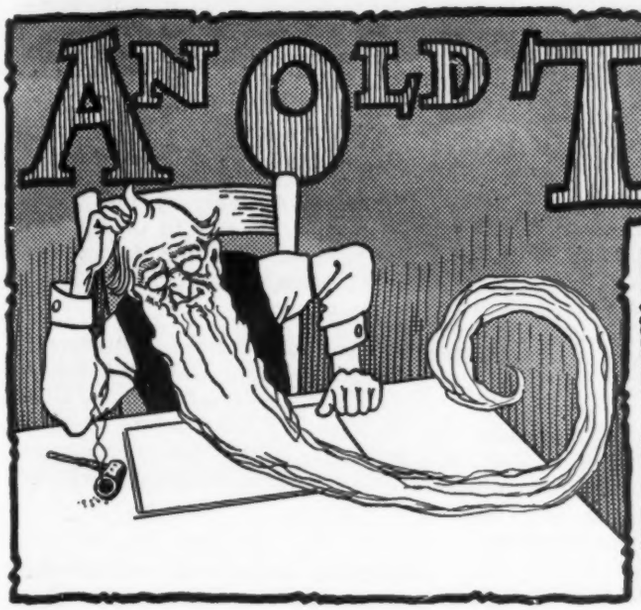
Inquiries regarding further details and results of mill tests are invited.

sonoco SERVES THE WORLD'S PAPER CARRIERS

## SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY




**Old-Timer's ideas for**

***Modernization***

***and***

***Maintenance***

## Labor Relations

***Without detracting from the emphasis placed on modernization and maintenance of machinery, even greater emphasis must be placed on the modernization and maintenance of labor relations.***

## Imagination

***Imagination precedes progress. New developments, whether for machinery or labor relations, are first conceived by the human brain. Sometimes it pays to dream.***

## Anticipation

***Anticipation is a "must" in labor relations. Minor grievances and major strife can be avoided by anticipation.***

**(Editor's Note: With the March 1947 issue, Old-Timer celebrates his 25th Anniversary with this magazine. That's quite a record.)**

## WHAT THE TEXTILE MILLS ARE DOING

Arlington Mills have acquired the William Whitman Co. textile sales agency, with offices in New York, Boston, Philadelphia, Charlotte, and Los Angeles. The corporate name will be changed to William Whitman Co., Inc. Their mill properties now include the Arlington Mills Division and the Monomac Spinning Mill Division in Lawrence, Mass., wholly owned; and the Nashawena Mills and Nonquitt Mills, New Bedford, Mass., subsidiaries.

Village houses, 600 in number, of the Burlington Mills Corp., Cramerton, N. C., are now on sale to the employees. The homes are being offered on the basis of a small cash down payment and the balance on long terms.

The Cordova (Ala.) Division of Nashua Mfg. Co. has been sold to Textron Southern, Inc., both of which are subsidiaries of Textron, Inc.

Four constituent corporations have merged into the Shuford Mills, Inc., Hickory, N. C. They are Granite Falls Mfg. Co. and Granite Cordage Co., Granite Falls, N. C., Highland Cordage Co. and A. A. Shuford Mills Co., Hickory, N. C.

Morgan-Jones, Inc., an exclusive sales organization in New York, N. Y., is a recent collaboration formed by leading North Carolina textile home furnishings manufacturers.

Mills owned and operated by Marshall Field & Co., previously designated as a manufacturing division, with headquarters at Spray, N. C., will be known as Fieldorest Mills.

Operations of Textron Mills and Manville Fabrics, Inc., subsidiaries of Textron, Inc., have been transferred to Nashua Mfg. Co., another subsidiary. This move will simplify the corporate organization, and operations will continue as divisions of that company. Also, Cordova operations of Nashua Mfg. Co. will be transferred to Textron Southern, Inc., in order to combine the southern operations into one company.

The Va-Do Fabrics, Inc., newly established industry in Centre, Ala., has been set up to manufacture narrow woven tapes and webbings, bindings, etc.

A one-story factory at Blytheville, Ark., has been contracted for by Rice-Stix Dry Goods Co., St. Louis, Mo., for the manufacture of men's and boys' shirts, pajamas and underwear. The cost will be approximately $100,000.

CPA has granted approval for a one-story addition to the Griswold Woolen Mills, Voluntown, Conn., at a cost of about $10,000, exclusive of equipment.

Clark Thread Co., Austell, Ga., proposes a new mill at a cost of about $500,000. Another is to be located in Thomasville, Ga., at a like amount.

The Lumite division of the Chicopee Mfg. Corp., Gainesville, Ga., will


9,000,000

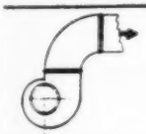
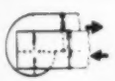
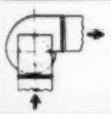
FEET of Holt Maple Flooring have gone into Southern Textile Mills since 1920---with complete satisfaction to the owners.

*REPRESENTED in the South by Bright-Brooks Lumber Company Charlotte, N. C.*

HOLT HARDWOOD COMPANY., OCONTO, WISCONSIN

# *Cut* "ELBOW LOSSES" IN YOUR AIR DELIVERY!

## See how "Buffalo" LIMIT-LOAD FANS PERFORM WITH DIFFICULT CONNECTIONS

| Obstruction | | Percent Reduction in Capacity | | |
|---|---|---|---|---|
| | | Static Pressure | Buffalo Type "LL" | Competitive Forward Curve |
|  | Elbow on fan outlet | 1" | 3% | 7% |
| | | ¾" | 3% | 7% |
| | | ½" | 3½% | 11% |
| | Elbow on inlet from left side | 1" | 2½% | 8½% |
| | | ¾" | 2% | 11% |
| | | ½" | 3% | 17½% |
|  | Elbow on inlet from right side | 1" | 1½% | 5% |
| | | ¾" | 1½% | 6% |
| | | ½" | 2½% | 7% |
| | Elbow on inlet from top | 1" | 2½% | 5% |
| | | ¾" | 2% | 6% |
| | | ½" | 3% | 7% |
|  | Elbow on inlet from bottom | 1" | 1½% | 5% |
| | | ¾" | 1½% | 6% |
| | | ½" | 2½% | 7% |

Note—Data is based on a fan outlet velocity of 1600 feet per minute.

Often, when space considerations call for installing a fan with elbow connections either on inlet or outlet, static pressures go up! You're paying for more power and less delivery.

However, you can cut these pressure losses to a very substantial degree with Buffalo Limit-Load Fans in such spots.

The table at left shows, by actual pitot tube readings at 1600 cfm outlet velocity, the way these Buffalo Fans can step up the efficiency in your air system.

Why not let Buffalo Limit-Load fans save you money? Simply write us for Bulletin 3339, which gives you all ratings, capacities and construction data on these quiet, trouble-free fans.

**BUFFALO FORGE COMPANY**

175 MORTIMER STREET BUFFALO, N. Y.

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

"Buffalo" Limit-Load FANS

# DARNELL
## CASTERS & WHEELS

*Smooth* ROLLING

Darnell Dependability assures savings, service, safety, speed. A caster or wheel for every use.

You are sure to find the exact caster or wheel for your individual requirements in the Darnell line.

DARNELL CORP. LTD
LONG BEACH 4, CALIFORNIA
60 WALKER ST. NEW YORK 13, N. Y.
36 N. CLINTON CHICAGO 6, ILL.

# KALPINOL
## for NYLON HOSIERY

Yarns wet with Kalpinol give a good stitch, then dry within two inches of the needles. Stitch remains set. Birdseyes or slipping of the stitch are avoided. Rolling is prevented, making seaming easier.

. . . a Kali lubricant that reduces friction on the needles and sinkers and also makes carrier tubes last longer.

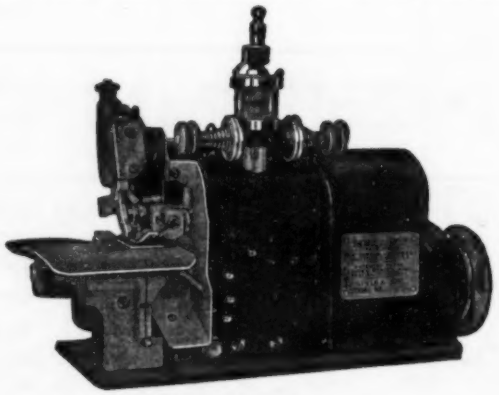
For cleaning nylon size from your needles, sinkers, bits, etc., use K.N.K. (Kali Needle Kleaner). It can be used straight, or mixed with equal parts of water without separating.

ONE OF A FULL LINE OF KALI TEXTILE CHEMICALS

KALI MANUFACTURING CO.
*Manufacturing Chemists*
427 MOYER STREET • PHILADELPHIA 25, PA.

Established 1838 — **MERROW** — Incorporated 1894

**HIGH SPEED OVEREDGING, OVERSEAMING AND HEMMING MACHINES**
*FOR USE ON*
**Knitted and Woven Wear of All Kinds**



**QUALITY RESULTS**
**HIGH PRODUCTION**
**CONVENIENT HANDLING**
**MINIMUM TIME-OUT FOR ADJUSTMENT OR REPAIR**
**LOW UPKEEP COSTS**

*For Best Results Use a Machine Suitably Arranged for Your Work*

**THE MERROW MACHINE COMPANY**
2805 LAUREL STREET — HARTFORD 6, CONN., U. S. A.

*—Distributors—*
HOLLISTER-MORELAND CO., P. O. BOX 721, SPARTANBURG, S. C.

improve and equip part of the Bona-Allen factory at Buford, Ga., for a new branch mill to manufacture plastic screen cloth.

A one-story addition to the branch mill at Manchester, Ga., has been planned by Callaway Mills, LaGrange, Ga., for the manufacture of ducks, twills, corduroys, etc.

A. D. Ellis Mills, Inc., Monson, Mass., plan to equip a two-story addition for increased capacity at a cost of about $25,000, exclusive of equipment.

A five-story building has been purchased by LaRose Bedspread Co., New York, N. Y., to be improved and equipped for a converting plant.

Sapona Mfg. Co., Asheboro, N. C., has improved the water system at the mill, and also has installed additional facilities.

Erection of a one-story mill for Piedmont Silk Mills, Greensboro, N. C., has been started in Dobson, N. C. The plant will move there after completion.

A branch mill, Sun Spun Mfg. Co., chenille bedspreads, of Burlington Mills Corp., Greensboro, N. C., will occupy space in the Gastonia (N. C.) Industrial Realty Corp. building.

The recently discontinued Betty Yarn Mill, Kings Mountain, N. C., has been purchased by Troy Whitehead Machinery Co., Charlotte, N. C.

Santiam Flax Growers, a nonprofit cooperative organization, has purchased a Government-owned flax mill in Jefferson, Ore., which it operated under lease during the war, and will develop for a privately-owned enterprise.

Plans for the erection of a one-story addition to the Berwick (Pa.) Weaving, Inc., rayons, are in progress. The cost is reported to be over $180,000.

The recently organized Thompson Carpet Mfg. Co. has acquired Ace Carpets Mfg. Co., Philadelphia, Pa.

Ashaway (R. I.) Line & Twine Mfg. Co., braided and twisted silk and linen lines, has contracted for a two-story and basement addition, with a reported cost of over $50,000.

A new mill has been planned by the Mooresville (N. C.) Cotton Mills, towels, flannels, and drapery goods. Extensions will be made in the finishing department, and additional equipment will be installed.

Arial Mill, branch plant of Alice Mfg. Co., Easley, S. C., print cloths, has installed an air-conditioning system, estimated to cost about $250,000.

Construction of a branch factory at Marion, Ala., has been considered by Blue Bell, Inc., Greensboro, N. C., overalls and work clothes.

CPA has approved a new addition to the Buck Creek Cotton Mills, Siluria, Ala., including extensions to the machine shop.

Bemis Bro. Bag Co., Talladega, Ala., has let contract for a one-story warehouse addition, at a cost of about $120,000.

Rock Falls Textile Printing Corp. has been organized to operate a textile dye and print works in Middletown, Conn.

Clark Thread Co., Austell, Ga., has plans under way for a new warehouse to be located in Atlanta, Ga., for storage and distribution.

Plans have been decided upon for

# How TESTING Paced the Development of Skinner's SUNBAK* Fabric

**Skinner's Sunbak Fabric didn't reach its present state of perfection just by chance. Its development was based on a planned program of TESTING.**

As each experimental fabric left the loom, it was immediately submitted to the United States Testing Company, Inc., for Tests on warmth, strength, and cleanability. Inadequacies were noted, corrected, and the new samples were tested again. After a series of such tests William Skinner & Sons introduced Sunbak to the market . . . as fine a fabric as human ingenuity can produce. It was considered so unique, a U. S. Patent was issued on the construction.

But Skinner didn't stop there! Sunbak was put on a program of constant testing and retesting . . . its quality checked continually as a quality control feature.

Another example of the proper use and application of TESTING.

If you are faced with a similar problem of fabric development, let us outline a program of testing and quality control for you. Write or phone.

*Reg. U. S. Pat. Off.

ESTABLISHED 1880

UNITED STATES TESTING COMPANY, INC.

HOBOKEN NEW JERSEY

PHILADELPHIA, PA. · BOSTON, MASS. · WOONSOCKET, R. I. · CHICAGO, ILL. · NEW YORK, N. Y.

**KENTEX**
PRECISION
**APRONS**

# Help to bring your yarn production UP

Textile aprons are little things that can make a BIG difference in yarn production. Aprons that don't fit *perfectly*, grip *firmly* and flow the yarn *smoothly* by, will slow up your yarn output.

KENTEX Aprons speed yarn production by *fitting, gripping* and *wearing* better. Made of the finest quality barktanned or chrome leather—and micrometer-gauged for width, length, thickness and circumference—every KENTEX Apron is guaranteed to conform to specifications, and to other aprons in the same and preceding shipments.

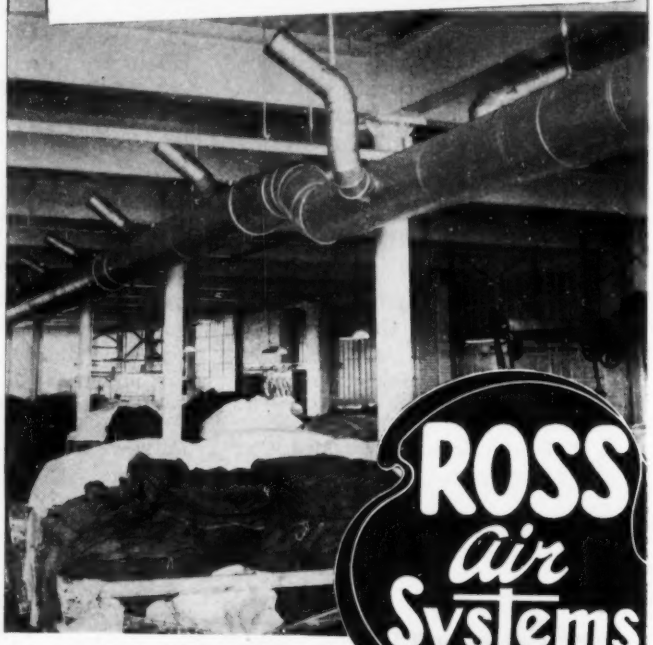
Write us for free samples and prices.

## TEXTILE APRON COMPANY

EAST POINT, GEORGIA



**TEXTILE MILLS**
*agree with*
**PAPER MILLS**
on choice of the best methods for
HEATING • VENTILATING
SATURATING • CURING • DRYING



*Section of ROSS Ceiling Heating and Ventilating System in mill of Trion Co., Trion, Ga.*

**ROSS** *air* **Systems**

The time tested success of the many ROSS Air Systems throughout the pulp and paper industry naturally led to their application in the Textile Industry. Leading textile manufacturers were quick to fully utilize the expert knowledge and broad experience possessed by ROSS engineers in the field of air handling. In two major industries with basic processing problems so much alike, ROSS methods can be relied upon for equally successful results.

**Dye House Ventilation, Continuous Web Drying, Web Saturating and Coating, Infra-Red Drying — Gas and Electric, Oil and Gas Fired Air Heaters. Consult us on your problems.**

## J. O. ROSS ENGINEERING CORP.

*DESIGNERS and BUILDERS of AIR PROCESSING SYSTEMS*

350 MADISON AVE., New York 17, N. Y.

Chicago-6 201 N. Wells St. | Boston-9 79 Milk St. | Detroit-3 12953 Greeley Ave. | Los Angeles-21 1231 E. Seventh St.

ROSS ENGINEERING OF CANADA, LIMITED, MONTREAL 19, P. Q.
CARRIER—ROSS ENGINEERING COMPANY, LIMITED, LONDON, ENGLAND

the installation of a new water system for Pepperton Cotton Mills, Jackson, Ga., damask napkins and table tops.

Dixie Cotton Mills, LaGrange, Ga., has let contract for a one-story addition, estimated to cost about $50,000.

Machinery of Roswell (Ga.) Cotton Mills, recently purchased by Comer Machinery Co., Atlanta, Ga., has been sold to South American interests. William Ellis, of Southern Mills, Inc., Atlanta, Ga., and his brother, Rutherford Ellis, are reported to have purchased the buildings. They plan to establish a branch plant for cotton knitted padding, laundry nets, etc.

Permission has been received from CPA to erect a one-story addition to a felt mill at Cedarhurst, Md., owned by Congoleum-Nairn, Inc., Kearny, N. J.

Fall River (Mass.) Curtain Co. has been purchased, but will continue operations as an affiliated interest, by Richard Borden Mfg. Co. cotton dress goods, lawns, and voiles.

Plans are maturing for another one-story addition, with installation of equipment for increased capacity, for Sanders Cotton Mills, Inc., Starkville, Miss. Work is now in progress on two other extensions.

Nashua (N. H.) Mills plan to replace such presently operated machinery with improved equipment when such is available, in order to increase their capacity in the manufacture of blankets.

The recently organized Craftspun Yarns, Inc., Kings Mountain, N. C., is a new interest of Scranton Lace Co., Scranton, Pa., which also recently acquired the Cora Mill of Textiles, Inc., Kings Mountain, N. C.

Alec Davis, formerly with Saco-Lowell Shops, will operate the Long Leaf Mills yarn plant in Mathews, N. C. Mr. Davis is located in Charlotte, N. C.

Erection has begun on a one-story mill for Cecil Pendleton and associates, in Shelby, N. C., for the manufacture of cotton fabrics.

Erie Dyeing & Processing Co., Cleveland, Ohio, has plans under way for a two-story addition, at an estimated cost of over $135,000.

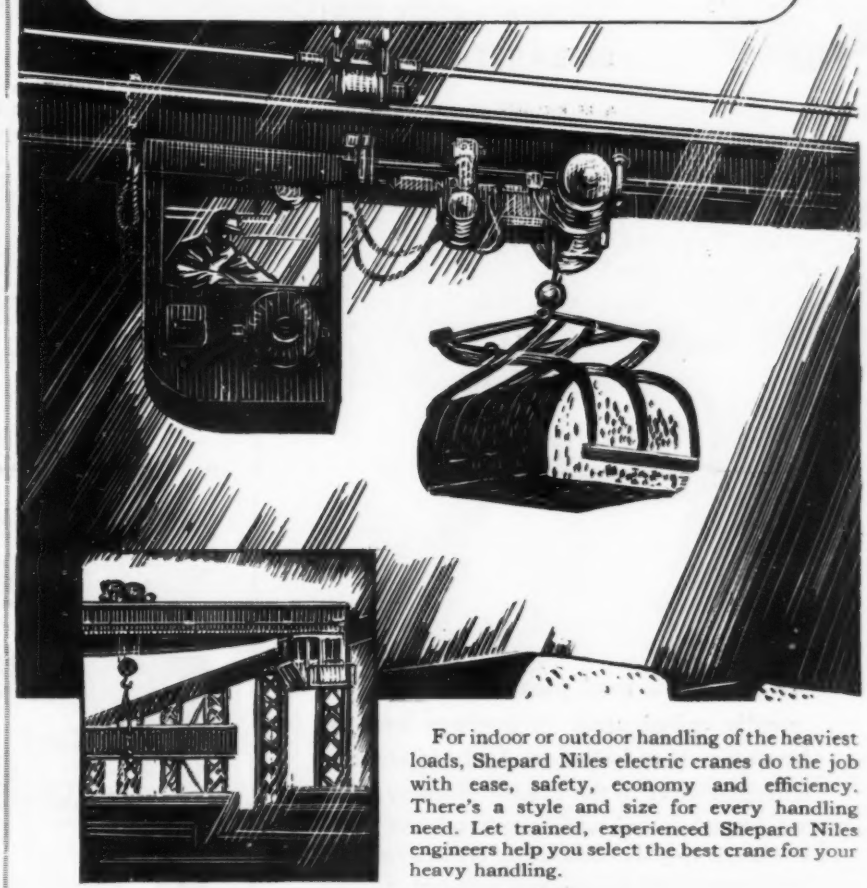
A one-story textile processing mill has been planned by Electro-Mechanical Fabrics Corp., Hillsgrove, Warwick, R. I., to cost over $30,000.


## Need A Railroad In Your Plant?

When you install a Shepard Niles monorail hoist you have your own private railroad to lift heavy loads, move them to other parts of the plant and deposit them where needed.

America's oldest builder of electric hoists and cranes has a style and size of monorail hoist for every handling operation from 1/8 to 20 tons. Trained, experienced Shepard Niles engineers will gladly survey your material handling problems and recommend, without obligation, the best style of monorail hoist to do the job. With over 5,000 styles and sizes from which to choose, there's bound to be one to suit you.

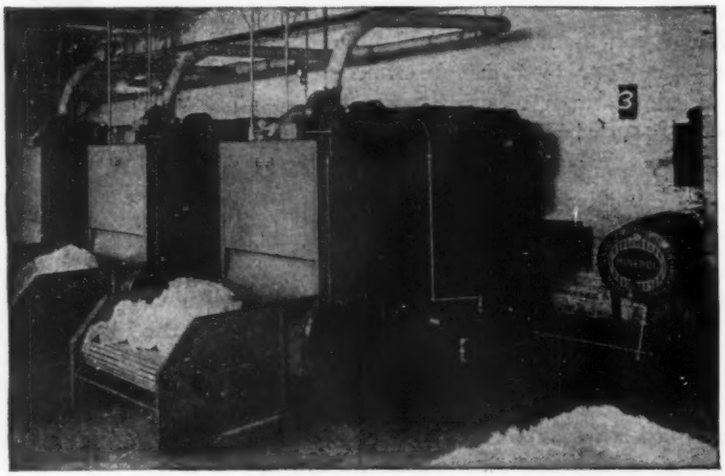
Shepard Niles monorail hoists, whether floor or cab operated, work economically and efficiently, year after year. When a Shepard Niles does the work there's no tired muscles, no absenteeism.



For indoor or outdoor handling of the heaviest loads, Shepard Niles electric cranes do the job with ease, safety, economy and efficiency. There's a style and size for every handling need. Let trained, experienced Shepard Niles engineers help you select the best crane for your heavy handling.

Shepard Niles
CRANE & HOIST CORPORATION
465 SCHUYLER AVE., MONTOUR FALLS, N. Y.

# MINEROL FIRST and FOREMOST CONDITIONING AGENT for Textile Fibres.



● **MINEROL** is a prepared agent for conditioning textile fibres..a systematic Process of Spraying Natural and Dyed Raw Stock. • **MINEROL** helps to separate long fibres from the short. It saves *good fibres* and prevents waste. It makes fibres more supple..more pliable.• **MINEROL** provides *control* of conditions caused by static electricity. It protects the cards and preserves the wire. • **MINEROL** prevents Dust and Fly..safeguarding health and insuring better working conditions.• **MINEROL**..as a conditioner is more urgently in demand thru the increased use of staple Cut Rayon and its varied combinations with cotton, wool and other fibres.

BRETON MINEROL PROCESS

## BORNE SCRYMSER COMPANY

Originators of the BRETON MINEROL PROCESS for CONDITIONING FIBRE

**ELIZABETH, N. J.** — **CHARLOTTE, N. C.**

A. M. KNIGHT, West Yarmouth, Mass.

R. C. YOUNG, Mgr., Charlotte, N. C.

NEW ENGLAND REPRESENTATIVES
W. M. DYNES, West Springfield, Mass.

SOUTHERN REPRESENTATIVES
JOHN FERGUSON, LaGrange, Ga.

S. T. DOUGLAS, JR., Westwood, Mass.

W. E. SMITH, Charlotte, N. C.

## *Specialists* in Textile Leather *Specialties*

We invite the hard jobs that we are frequently called upon to produce because by doing them better we feel we are contributing more to the textile industry—and, we have learned and improved our skills through the experience. Wherever our "CHAMPION" trademark appears on textile leather products it means just that.

CHAMPION

W. D. DODENHOFF COMPANY
INCORPORATED
GREENVILLE, SOUTH CAROLINA

## *Industrial Engineers*

SPECIALIZING IN TEXTILES FOR MORE THAN A QUARTER OF A CENTURY

PAY ROLL CONTROLS — WORK LOAD STUDIES
COST SYSTEMS — SPECIAL REPORTS
COST REDUCTION SURVEYS

RALPH E. LOPER CO.
GREENVILLE, S. C. — FALL RIVER, MASS.

## Everything you need in INDUSTRIAL CHEMICALS

**"MORETEX" Sizings,**

formulated with latest developed synthetic softeners and resins, assure *better weaving efficiency.*

Moreland CHEMICAL CO. INC.
Spartanburg S.C.

# PERSONAL NOTES

## ABOUT MEN YOU KNOW

O. L. WARD has been appointed superintendent of the United States Rubber Co. plant in Gastonia, N. C. DONALD CARROLL will succeed him as superintendent at Scottsville, Va. Mr. Ward succeeds DON MADDOX, who resigned his position to pursue other interests.

ROY E. TILLES, president, Gotham Hosiery Company, Inc., has been elected president of the Textile Color Card Association.

CARL A. JOHNSON, former general superintendent of the Lonsdale Company, has been appointed general manager of Fisher Mfg. Co., Inc., Fisherville, Mass.

JESSE M. JONES, formerly with the Pelzer, S. C., plant of Kendall Co., has been chosen for the position of superintendent of Bath Mills, Bath, S. C. L. R. SHIRLEY, former superintendent and manager, will continue as manager of Bath Mills.

H. M. JACKSON, former superintendent at the Pacolet Mfg. Co., New Holland, Ga., has been appointed superintendent of the Lumite Division of the Chicopee Mfg. Corp., Cornelia, Ga. He replaces J. L. HALL, who has been transferred to a different Lumite operation in Georgia.

North Star Woolen Mill Co., Minneapolis, Minn., has announced four executive promotions; they are: JOHN N. LINDEKE, vice-president and secretary, becomes resident vice-president and general manager of this company's Minneapolis division; H. C. WHITEHOUSE, former Minneapolis plant manager, becomes resident vice-president and general manager of the Wakefield, R. I., division; RAYMOND K. FLEGE, research director, has been appointed manager of the Minneapolis plant; and W. E. MORSE, former cost and methods engineer, becomes assistant plant manager of the Minneapolis division.

G. LAWSON IVIE, former sales manager of domestics, has been appointed assistant general sales manager of all the Fieldorest Mills, Division of Marshall Field & Co., Inc., of which there are 11. ARTHUR S. THOMPSON, former assistant domestics sales manager, has been promoted to sales manager of the Fieldorest domestics line. C. W. SINGER will be manager of the towel department; and A. F. LUX, manager of distributor sales, in addition to his present duties, has been appointed department manager in charge of blanket sales to bulk and jobbing accounts. This department was formerly managed by W. L. PIERCE, recently retired.

CLIFTON E. ALLEN, former assistant treasurer of Synthetic Yarns, Inc., Woonsocket, R. I., has been appointed superintendent of the Crown Mfg. Co., Pawtucket, R. I.

HERBERT GREGSON, former resident manager of the spinning divisions at Valley Falls, R. I., and Woonsocket, R. I., will now act as general consultant to Sidney Blumenthal & Co., Inc., New York, N. Y.

JAMES W. BATZ has retired as president of Branch 10, American Federation of Hosiery Workers, and will become personnel and labor relations director of the Nolde & Horst Co., Reading and Womelsdorf, Pa.

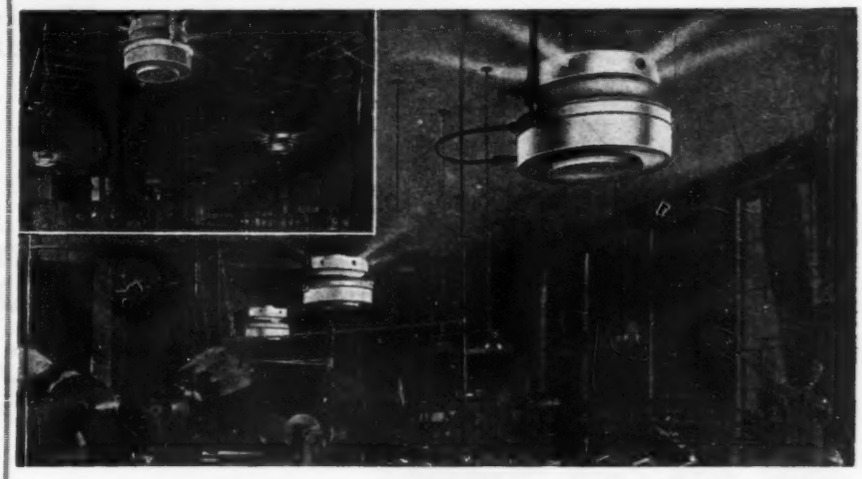
H. C. ALBAUGH, vice-president in charge of the sheeting division, has been made executive vice-president of Southeastern Cottons, Inc.

WILLIAM L. HUGO, former procurement specialist in textiles at the Army Quartermaster Purchasing Office, New York, N. Y., has retired and is joining Deering, Milliken & Co., Inc., as assistant in the quality control section.

WALTER S. MONTGOMERY, chairman of the board of governors, American Cotton Manufacturers Association, and president-treasurer of Spartan, Startex and Beaumont Mills, Spartanburg, S. C., has been elected president of Chinatex Federal, Inc., which has offices in Shanghai and New York.

TAYLOR INGRAM, with Marshall Field & Co. in different capacities since 1936, has been appointed superintendent of that company's hosiery plant in Fieldale, Va.

(*Continued on page* 189)



Walton

***The Use of Synthetic Fibres Makes the Question of Proper***

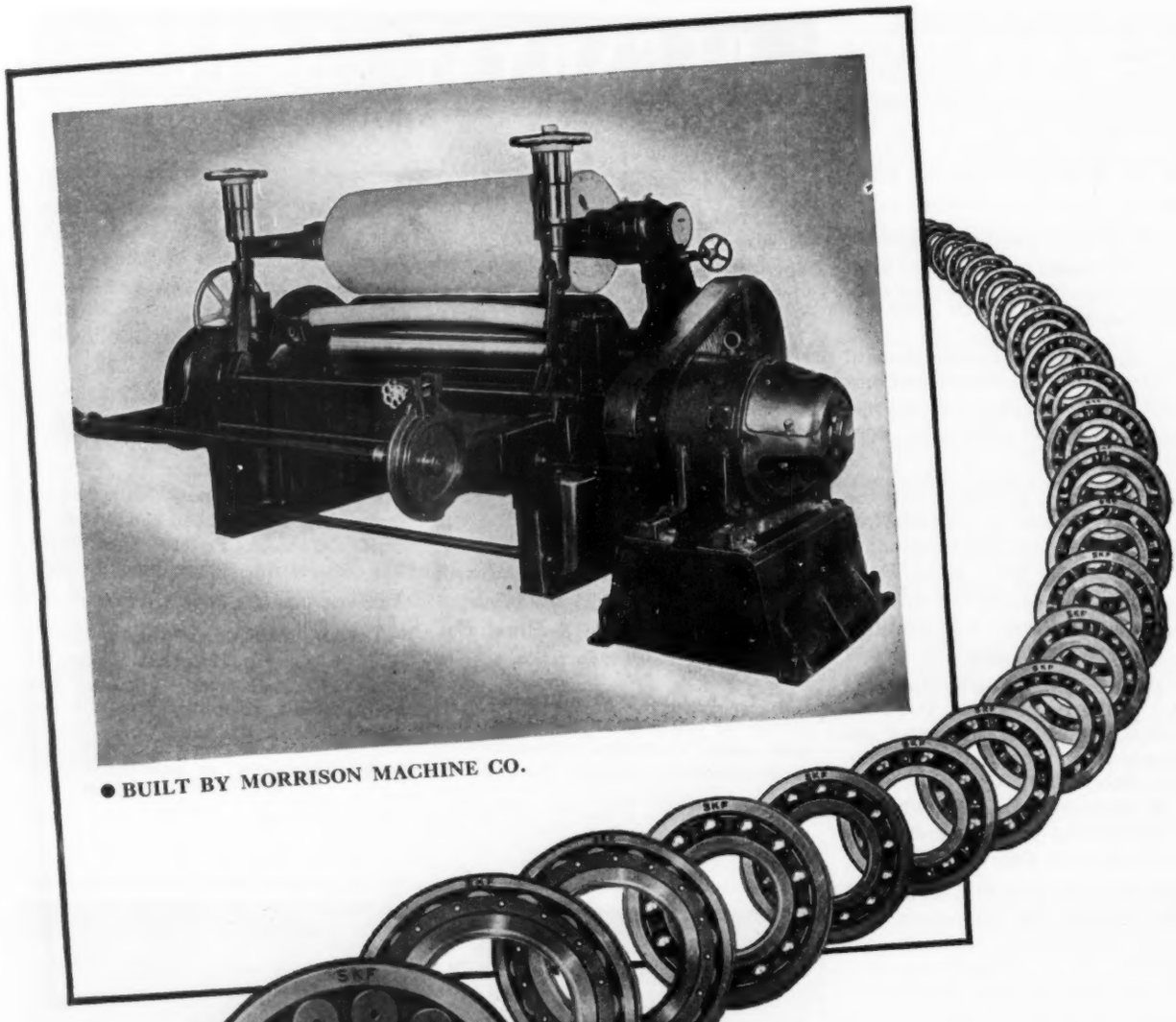
**HUMIDIFICATION**

***of Paramount Importance***

**Yearly maintenance checkup in your mill may indicate the need for accurate, simple, humidifying equipment, installed and operated at low cost.**

**The logical answer is WALTON. The new booklet "HUMIDITY" gives full data. Write for it.**

WALTON LABORATORIES, INC., Irvington, N. J.



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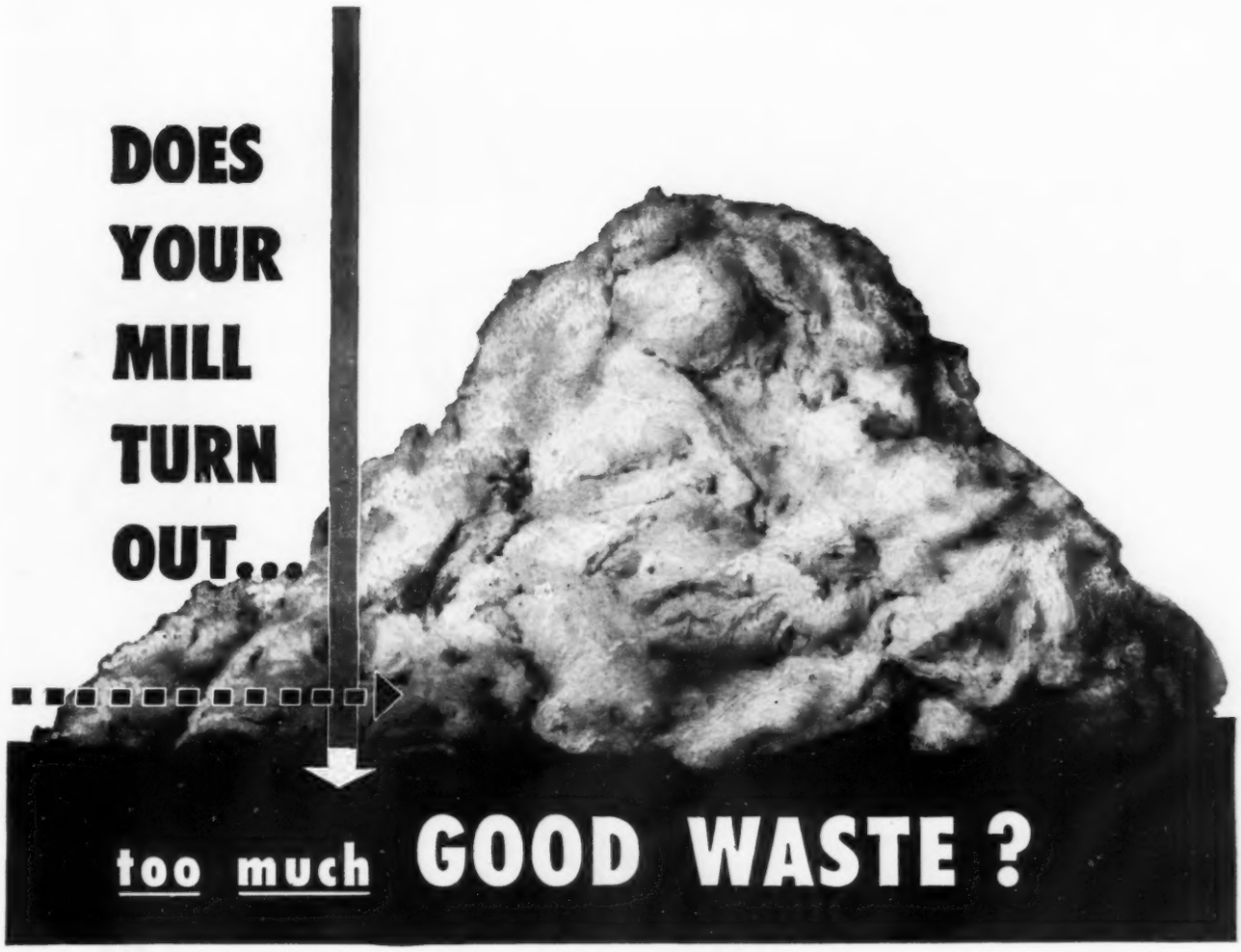
# THE RIGHT BEARINGS FOR 2-ROLL PADDERS

**SKF Puts the RIGHT BEARING in the RIGHT PLACE**

**This 2-Roll, 15-Ton, 54″ Face Micro-Set Padder is only one of many machines in the Textile Industry that's doing a highly-accurate job on SKF Bearings. Manufacturers of textile machinery recognize the many outstanding advantages of SKF Bearings. Easily carrying heavy radial and thrust loads without binding, SKF Bearings maintain full capacity, assure equalized load distribution, provide long life, and never require adjustments. In fact, infrequent lubrication is the only attention they need for many years of economical, profitable performance. So whether you build or buy a padder, spinning or twisting frame, cleaner, Sanforizer, slasher or any other textile machinery, check vital moving parts. If they're mounted in SKF Bearings, you're certain of dependable performance.** 6189

**SKF INDUSTRIES, INC., PHILA. 32, PA.**




Unless your waste bins contain only the very poorest grade of unavoidable waste, you are losing money on every pound you sell. For you know the best price you can get for waste fibers never equals the price you get for fibers in the form of finished products.

That is why our free Rayco Waste Control Service is proving valuable to many mills. At your request a Railway engineer will make a complete in-the-mill survey and analysis of your process—from first to last operation. Recommendations will be made for effective methods to reduce waste, to cut waste handling costs and to increase your profits by obtaining a greater overall production of finished goods.

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## LEAD FOR TOP PRODUCTION WITH

SOPLASCO engineered plastics . . . light, low-cost, guaranteed against breakage . . . boast control of strength and bulk to minimize labor and replacement.

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AN

# EXECUTIVE VIEWS

THE NEWS IN TEXTILES

## Safety Consciousness

WITH EACH passing year the textile industry is getting more and more safety conscious. From sweeper to mill president, textile employees are realizing with increasing clarity that a slip on a wet floor can sometimes be just as dangerous as an automobile accident, just as tragic for the individual involved and just as destructive to the production record of the plant in which he is employed. The increasing number of safety posters found on mill bulletin boards attests to the fact that management is alert to the dangers of shaky ladders, soft-drink bottles on the floor, and "horse-play" with air hose.

It was only recently that the National Safety Council announced the first awarding to a textile employee of the highest recognition it can give to an individual—its annual safety award of merit. This went to James Daniel Woodruff, an employee of Chatham Manufacturing Company, Elkin, N. C., whose record sets a high-water mark in industrial safety.

Mr. Woodruff, affectionately known to hundreds of friends as "Uncle Dan," is in his 51st year of continuous service at Chatham Manufacturing Company. A certificate presented to him at a banquet attested to the fact that he had completed 50 years without losing a single day because of an industrial accident. Also honored at the same time were two sons of "Uncle Dan," Marshall and Grady, who have perfect accident records dating from 1924, when they first came to work at Chatham. Considered together, the three records give the family a total of 94 years of continuous service without an accident.

In accepting the safety award from the National Safety Council, "Uncle Dan" expressed the belief that splendid working conditions at Chatham had made his record possible. Additionally, it may be said that "Uncle Dan's" own alertness, the fact that he thinks before he acts, has gone a long way toward building up those 50 years without a day lost because of accident. And the "safety consciousness" of management, keeping always before the employee the thought that it's better to be safe than sorry, has helped "Uncle Dan" and others like him to work safely down through the years.

## Wages vs. Living Costs

The so-called "Nathan Report" has already been torn to pieces rather thoroughly, but we don't believe that particular mention has yet been made of how fallacious the Nathan "reasoning" has been in the light of textile wage increases. Mr. Nathan, who has guessed wrong before, went through a series of statistical somersaults to show that the cost of living has outdistanced the increase in wages. Most of his reasoning has been soundly rebutted, so that is not necessary here. What we would like to do at this time is to show what has happened to textile wages and to the cost of living since 1941.

Figures of the Bureau of Labor Statistics show that in January, 1941, southern cotton textile workers were making an average hourly wage of 40.3 cents. The latest figure available at this writing—and from the same source, the Bureau of Labor Statistics—shows that this figure has now risen to 87.7 cents in October of 1946. Now this is an increase in average hourly earnings of 117 per cent from January, 1941, to October, 1946.

During the same time, what has happened to the cost of living? Mr. Nathan and his associates would have us believe that wages have lagged far behind the cost of living. But again figures from the same source, the Bureau of Labor Statistics, show what has actually happened. The Bureau shows in its "Index of Consumers' Prices for Moderate-Income Families in Large Cities" that the cost of living has made a much more conservative rise than some of the left-wingers would have us believe. Using 1935-39 as 100, the index shows 1941 at 105.2 and October, 1946, at 148.4.

Therefore the increase in the Bureau of Labor Statistics index has been 41 per cent from 1941 to October, 1946, during the same period in which average hourly earnings in southern cotton textiles were increasing 117 per cent. The situation is still further improved when we re-


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"Mechanical-electronic"* applications suggested by us have saved thousands of dollars for scores of leading mills. For example: One dye house saved the work of two men. In addition they stepped up production 33⅓%. This was the result of merely one single "mechanical-electronic" application which we suggested to them.

Weaving plants, spinners, and others have effected similar economies.

We have developed over 200 of such applications for leading textile machinery manufacturers and mills.

Other textile applications include: stop motion devices, temperature, humidity and moisture controls, photoelectric scanners, etc.

You too may have one or several applications of mechanical electronics that will save you thousands of dollars in reduced labor cost and increased production.

We will make a complete survey of the opportunities for savings in your plant and render a written report or details of applications.

Write us today to be sure that we will be able to check up on your plant the next time we are in your neighborhood.

*Trademark Reg. Pending.

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mechanical electronics

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## *Permutit protects process water, cuts cost for hundreds of mills!*

**EVERYONE in the textile picture requires pure process water. Spinners, weavers, dyers, finishers, converters—all know that impurities in their water supplies could disturb chemical reactions, spoil the finish of fabrics, and cause spotty, off-color dye lots. Permutit* removes these impurities—provides pure process water, increases efficiency, speeds operations!**

**• More and more modern mills have turned to Permutit Water Conditioning equipment to find an economical, efficient means of controlling the quality of their process water. Plan now, to see how Permutit protected process water will help in your mill. Write for full information to The Permutit Company, Dept. TI-2 330 West 42nd Street, New York 18, N. Y., or Permutit Company of Canada, Ltd., Montreal.**

# PERMUTIT

**WATER CONDITIONING HEADQUARTERS**

*TRADEMARK REG. U. S. PAT. OFF.

alize that the BLS index is based on "large" cities, and that practically all southern textile communities are nowhere near what the Bureau would term a "large" city.

So it can be seen that the story is quite a different one when we examine the facts, rather than the guesses. The facts show that southern cotton textile wages have increased 117 per cent since 1941, while the cost of living has risen only 41 per cent. That makes a much brighter picture than the one Mr. Nathan would have us see. But it is the true picture.

In the realm of guesses and fantasy, the left-wingers have gazed into their crystal balls and have come up with many figures concerning profits and earnings, but they have made few predictions as to what may happen to the cost of living. And yet all the indications are that the spiral has just about stopped and that the index of the Bureau of Labor Statistics will shortly begin to turn downward.

But in the meantime, there is still quite a margin between the 117 per cent wage increase and the 41 per cent cost of living increase. It is an important margin, and one well worth remembering.

### Plant Newspapers Build Morale

What part can a plant newspaper play in an industrial community? Is it worth the time and effort involved? Should a plant newspaper accept advertising, or should it be paid for entirely out of the funds of the mill? Should its material be prepared by skilled writers, or should it be handled by the regular production employees of the mill?

Those are some of the questions that are often asked when mill men consider the value of the plant newspaper, or "house organ." It is pretty generally realized, we believe, that, properly handled, the plant paper can be a real asset to an industrial community, and that it can perform a unique service in developing morale, or esprit de corps, among mill employees.

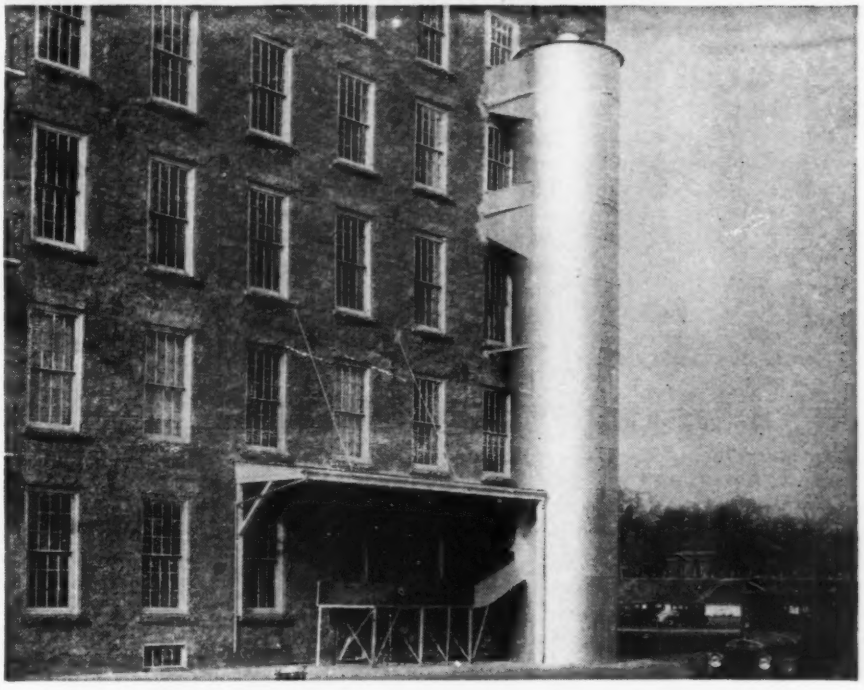
Many different styles and types of house organs are issued by southern textile mills, some of them being of an excellent quality. They vary in size from small monthly publications, printed on newspaper stock, up to weekly papers which are edited as carefully as the better weekly newspapers coming from the county seats. Some of the editors make free use of pictures and cartoons, while others, probably due to lack of funds, use no cuts.

(*Continued on page* 177)


**Mathews**

**SPIRAL CHUTES**

*Engineered to serve Production*



**Sheet Metal Spirals are ideal for lowering bales, bags, and packaged materials from upper to lower levels quickly and without damage. They can accommodate practically any number of floors and can be arranged with intermediate receive and discharge stations, as required. Spirals can be installed outside the building, as illustrated above, or inside the building. They take up very little floor space and are frequently installed in existing shafts or wells. Intake and outlet points are fully protected by fire doors which are controlled by fusible links. There is a Mathews Engineer operating in your vicinity. Ask him about spiral chutes, and the many other types of Mathews Conveyers which are engineered to serve production. Write or wire today.**

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# ANNOUNCING NEW MODELS of Two Essential Sipp-Eastwood Instruments

**Here are two instruments that soon become indispensable where tension of yarn and density of packages must be frequently checked during manufacture of textiles.**

**These new models are basically the same as the earlier models, familiar to mill men everywhere. The differences lie in structural changes that greatly increase the sturdiness and serviceability of these precision instruments for measuring tensions and density.**

## TENSOMETER

**The Sipp-Eastwood Tensometer will enable you to detect causes of faulty tensions in warping, winding, and quilling. The Tensometer is handy —slips readily into your pocket — is available to test tensions at all times. It saves its cost in a short time.**

## DENSIMETER

**The Sipp-Eastwood Densimeter measures the density of packages. From its readings it is possible to insure equal density on cops and quills. Its use enables you to obtain for a given yarn the proper density of the packages. When the proper density of the quill or cop has been determined with the Densimeter, the copper or quiller tension may be checked with the Tensometer, and, if all tensions are set alike, packages of uniform density will result.**

**Write today for your copy of illustrated folder describing these instruments.**

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*National Aniline pioneered this contribution to child health just as it took leadership in color developments for plastics, soap, leather, paper, foods, drugs, cosmetics, biological stains and in every other field where aniline dyes are used.*

*Our unequalled composite experience, available through National Technical Service, can be helpful in solving your next difficult dyeing problem.*

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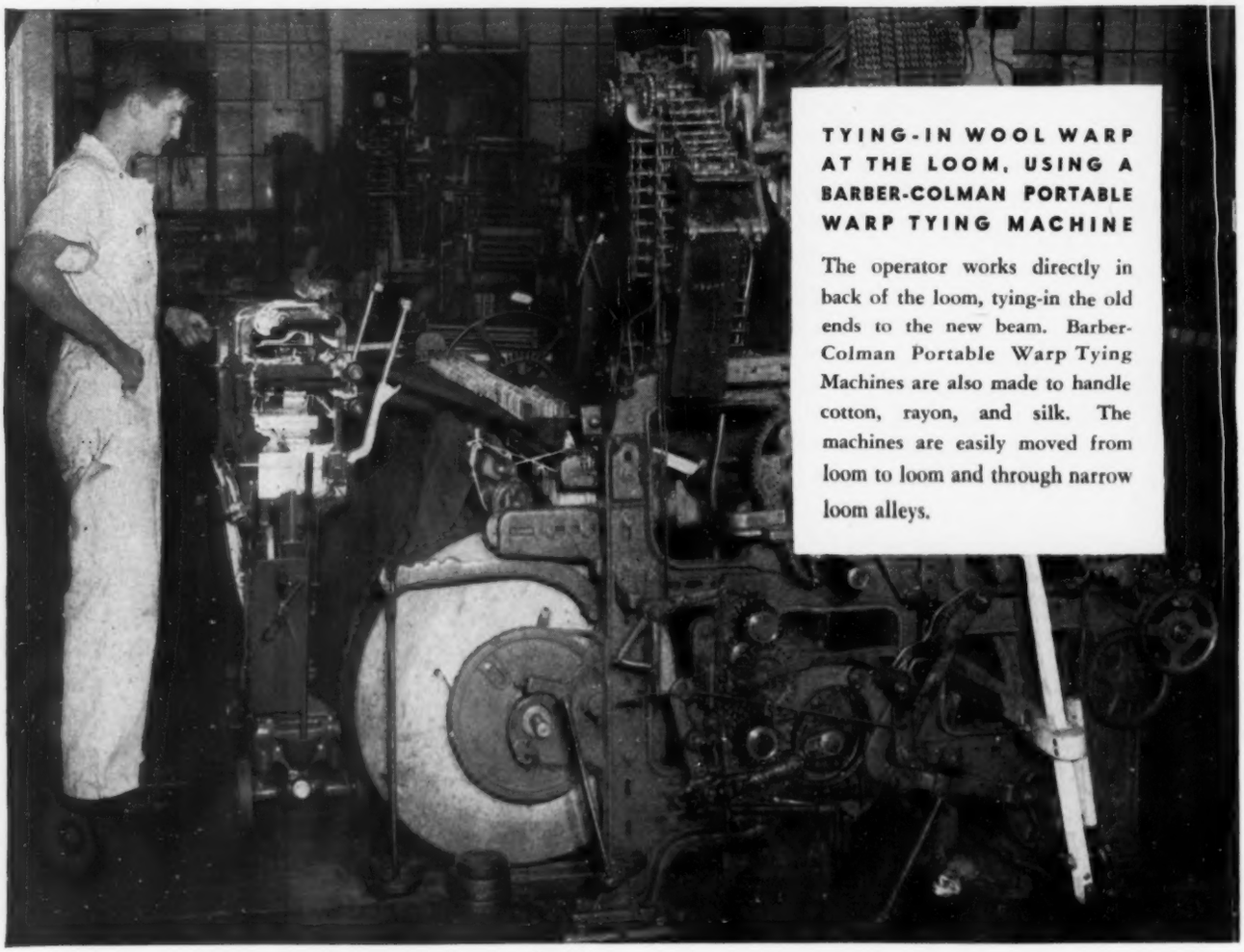
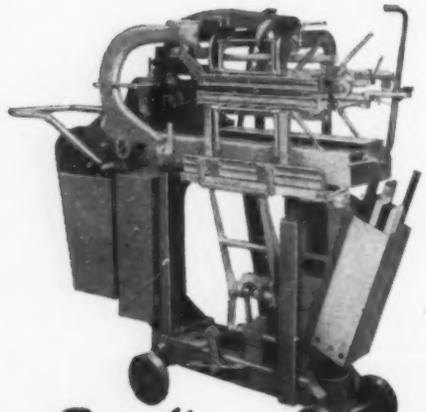


**TYING-IN WOOL WARP AT THE LOOM, USING A BARBER-COLMAN PORTABLE WARP TYING MACHINE**

The operator works directly in back of the loom, tying-in the old ends to the new beam. Barber-Colman Portable Warp Tying Machines are also made to handle cotton, rayon, and silk. The machines are easily moved from loom to loom and through narrow loom alleys.

# BARBER-COLMAN WARP-TYING IS "ACCEPTED AS STANDARD" IN EFFICIENT AMERICAN MILLS



*Portable*
WARP TYING MACHINE

In the weave rooms of efficient mills throughout the United States, Barber-Colman machines are daily doing their job of aiding production economy. Their ability to tie-in new warps *at the loom* speedily, accurately, and uniformly means minimum down time for warp replenishment. Since their introduction over a generation ago, Barber-Colman machines have been almost universally accepted as the "standard" method of replenishing warp. Various models are available — in fixed or portable types, and several sizes — to meet the needs of different mill and yarn conditions. Barber-Colman representatives are skilled in analyzing situations and advising the proper machine to meet your requirements. *For economical and accurate warp replenishment — use Barber-Colman Warp Tying Machines.*

**AUTOMATIC SPOOLERS-SUPER-SPEED WARPERS-WARP TYING MACHINES-DRAWING-IN MACHINES**

**BARBER-COLMAN COMPANY**
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FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND

There are many good newspapers being published by southern textile mills, but of the papers we have seen, some of the best examples are the various editions of *The Wingfoot Clan,* published by the Goodyear Clearwater Mills, with plants at Atco, Cedartown, and Rockmart, Georgia. Other outstanding newspapers that have come to our attention are *The Textorian,* of Proximity Manufacturing Company and Revolution Cotton Mills, Greensboro, N. C., and *The Springs Bulletin,* of Springs Cotton Mills, Lancaster, S. C.

## Specialized Training at Callaway Institute

Callaway Institute, Inc., LaGrange, Ga., has established a specialized training program for individualized training of persons associated with the textile industry. The program, tailor-made to suit the requirement for which the person is to be trained, is designed to produce the type of personnel that management is seeking.

Training at the Institute supplements or augments the work of established schools. Since the intent of the Institute would be defeated by too large a student body, the enrollment is at present limited.

Approved by the State Veterans Education Council for specialized textile training, the organization has adopted a tentative program representing a thirty-six weeks' course covering textile management, textile manufacturing, textile testing, and textile chemistry and dyeing. This program can be adapted both in content and length of time to fit individual needs.

The Institute possesses adequate facilities both as to equipment and personnel for this specialized training, including a complete machine shop with modern equipment, physical testing department, chemical laboratory, pilot textile unit, photographic department, and a library containing more than 2500 volumes of scientific and technical books.

The program offers to management the opportunity of quick but thorough training in specialized jobs, and is adaptable to the many phases of the industry other than and including manufacturing.

Smooth, Silky, Drapable Hand

Unusual Resistance to Washing

Easily Applied in the Dye Beck*

Stable . . . Lasting Effects

# ALL THESE AND MORE
## with ONYXSAN LG!

If you want an unusually smooth, silky, drapable hand for your fabrics—look into this newest unit in the Onyxsan line of cationic softeners.

Not only is the finish unusual, but it is exceptionally durable, particularly in its resistance to washing, on other than cotton or rayon fabrics. (On *these* two fibres the effect is *permanent!*)

Onyxsan LG offers economy, too, because of the small amounts required to obtain its characteristic finish.

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**PROPERTIES**—Stable to hard water, chlorides, sulphates, organic acids and small amounts of mineral acids. Substantive to all textile fibres. Concentration of active ingredient, 45%. 1% solution has a pH between 7 and 8. Soluble in water. Incompatible with anion-active materials.

Does not deteriorate in storage. Treated fabrics do not develop odors, show color alterations or mark-off. They do not stiffen in storage.

**APPLICATIONS**—Major use: Imparting exceptional smoothness, softness and drape to any fibre. Effect is permanent on cotton and rayon; very durable on other textiles. The Onyxsan action, unlike ordinary superficial surface lubrication, is due to effects produced *in* the yarn itself. Onyxsan LG is also a most effective emulsifying agent.

**Or in the pad, jig or quetsch.*

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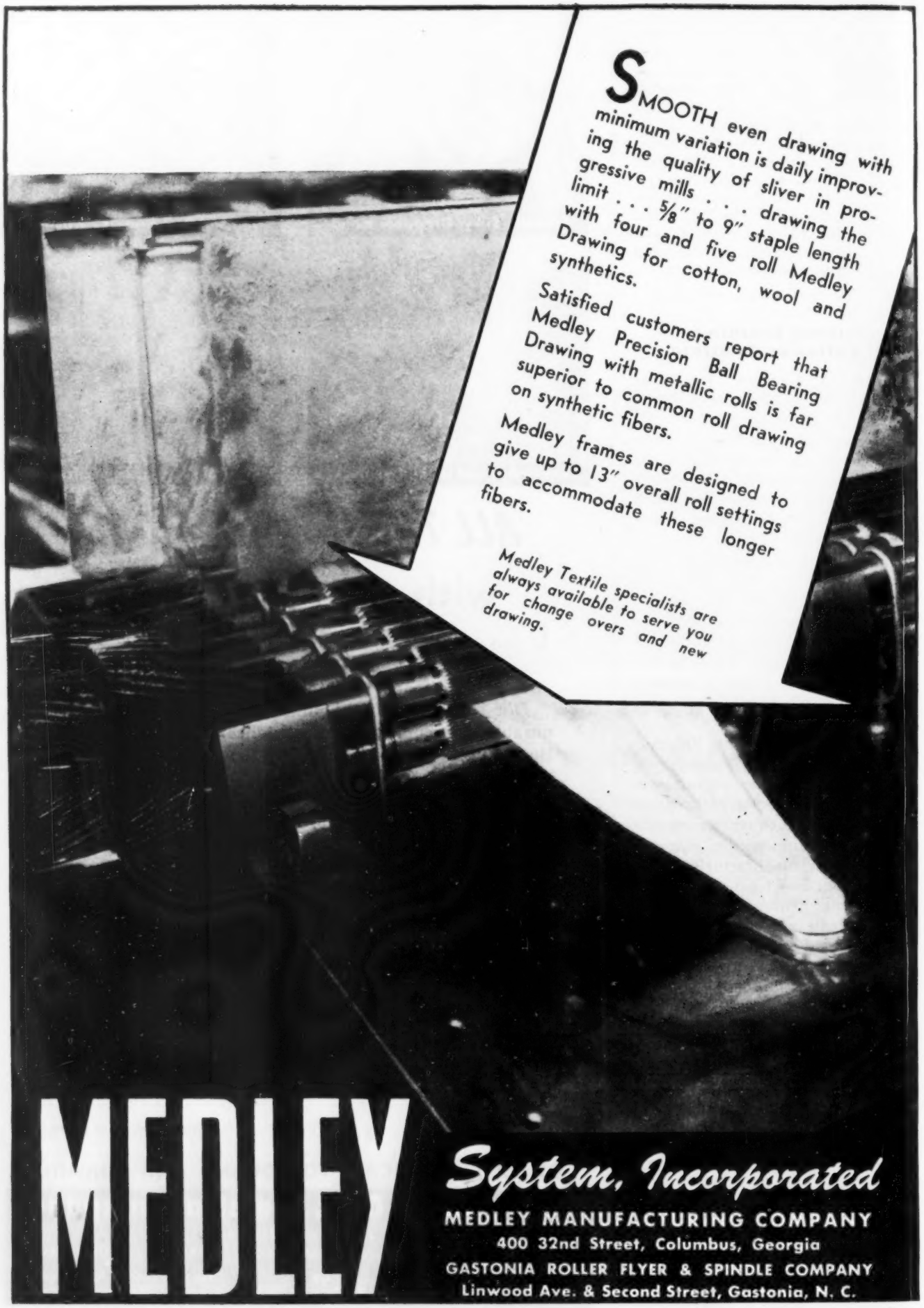
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NEW

# PUBLICATIONS

## OF TEXTILE INTEREST

**Armour & Co.,** 1355 West 31st Street, Chicago, Ill. Technical bulletin entitled "Armeen Salts—Penetrants . . . Repellents."

**Philadelphia Textile Institute,** Broad and Pine Sts., Philadelphia 2, Pa. Pamphlet entitled "Training for Leadership in the Textile Industry."

**General Electric Co.,** Nela Park, Cleveland 12, Ohio. Folder published by the Lamp Department on the new industrial infra-red lamp.

**Robert Reiner, Inc.,** 556 Gregory Ave., Weehawken, New Jersey. Catalog on the new Reiner Kayloom, a combination knitting and weaving loom.

**Lustra Corp. of America,** 40 West 25th Street, New York 10, N. Y. Bulletin No. 103, describing four types of light bulbs especially designed for rugged-duty service.

**W. H. Anderson Co.,** Cincinnati, Ohio, law book publishers, announce the first book on the new trade-mark act—"Trade-Mark Act of 1946", by H. A. Toulmin, Jr., Dayton, Ohio. (Price delivered single copies $5.00—10 or more copies $4.00 each).

**Liquid Conditioning Corp.,** 423 West 126th Street, New York 27, N. Y. Two bulletins describing modern filters of various types. Bulletin 1 outlines many types of clarifying filters and Bulletin 2 describes oil removal filters.

**Benjamin Electric Mfg. Co.,** Des Plaines, Ill. Booklet covering the activities of the new Benjamin Laboratory, entitled "45 Years of Progress in Lighting."

**A. C. Horn Co., Inc.,** 43-36 Tenth Street, Long Island 1, N. Y. A new edition of the Horn Construction Data and Handbook. The first section gives compact technical data on all Horn products; and the second section contains useful tables concerning building materials.

**Leslie Company,** 185 Delafield Ave., Lyndhurst, N. J. Bulletin 463 giving engineering, operating and maintenance data on pump governors for the control of reciprocating, turbine and motor driven pumps.

**Rapids-Standard Co., Inc.,** Grand Rapids, Mich. Catalog containing de-


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Pushing material around is not only slow, hard work — it's costly material handling — there's an easy way to do it.

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There's a Standard Conveyor for almost any circumstance of material transfer from one department to another.

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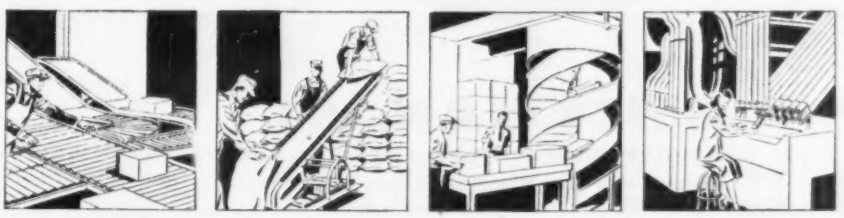

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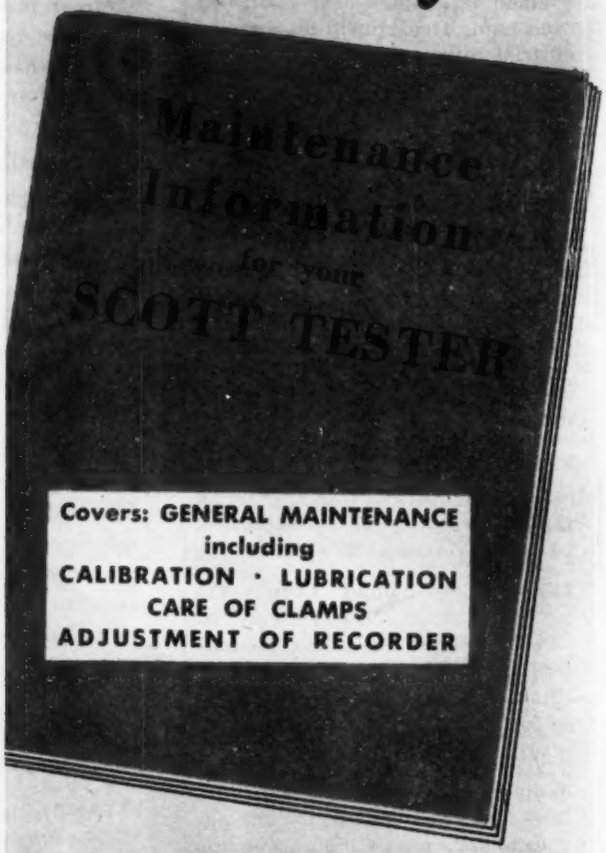


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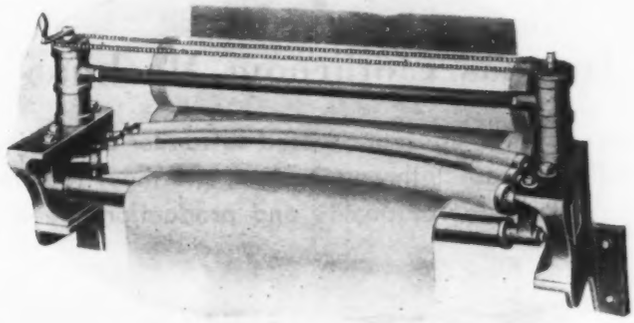

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Use at money values is the test of Lappings & Blankets

*Sole Agents for* Porritts & Spencer, Ltd. of Bury, Lancashire, England (Porritt Bros. & Austin, Ltd.) *Manufacturers for Over Half a Century of* LAPPINGS and ENDLESS WOOLEN BLANKETS, STEAMING BLANKETS, PALMER BLANKETS, SANFORIZING BLANKETS and WOOLEN JACKETS.

*Agents for* DOMESTIC MACKINTOSH AND RUBBER BLANKETS.

*Agents for* F. Reddaway & Co., Ltd. of Manchester, England. *For their* ALL-COTTON VIRTUALLY SEAMLESS and ENDLESS BLANKETS.

# The Textile Industry . . .

has had the

## Greatest Increase in LABOR COSTS

of any industry

**It is now *imperative* that**

**both *labor* and *equipment* be fully *utilized***

Doing this is our job.
How well we are doing our job can be found by asking our Clients old and new.
A list will be sent on request

Our work covers millions of spindles and years of experience.

## AMERICAN ASSOCIATED CONSULTANTS, Inc.

250 PARK AVENUE — NEW YORK 17, N. Y.

DOUGLAS S. KEOGH, President — JOHN J. SKELLY, Vice President-Gen. Mgr.

H. B. CRAFT, Vice President in Charge of Southern Operations - - - - - 30 Camden Road, Atlanta, Ga.

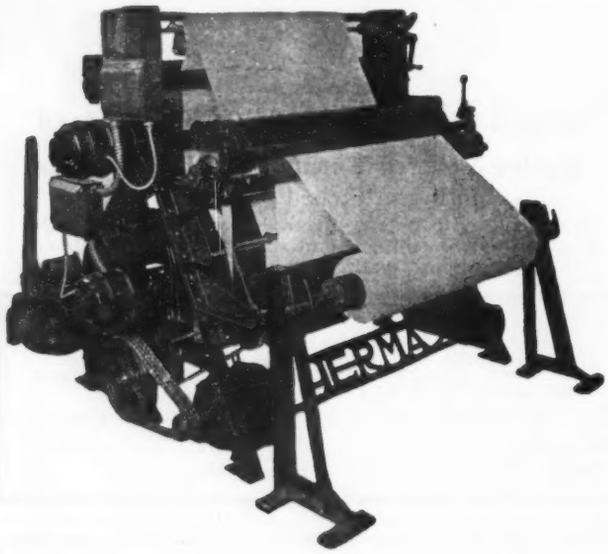
PAUL O. MERRILL, Vice President-Chief Engineer

## *They Pay Their Keep In Any Clothroom*

•

### Hermas Clothroom Machines

are designed and constructed to render complete, well balanced clothroom service, and meet today's high standards of quality and production speeds.



### Hermas Shear

—cleans both sides and selvages of cloth in a single run through, at speeds up to 125 yards a minute.

Hermas Brushes, Examining and Measuring Machines, Sewing and Rolling Machines, Scrays and other accessory equipment make smooth going in any clothroom.

•

*Write for folders.*

**HERMAS MACHINE COMPANY**

*America's Only Exclusive Specialists in Clothroom Equipment.*

**Hawthorne** **New Jersey**

REPRESENTATIVES:

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# VICTOR MILL STARCH

*Always A Winner!*

★ **Penetrates Thoroughly**

★ **Dependable**

★ **Carries Weight Into the Fabric**

★ **Always Uniform**

★ **Boils Thin**

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**THE KEEVER STARCH COMPANY**

COLUMBUS 15, OHIO

scriptions of this company's entire line of Rapid Power Boosters (power belt conveyors).

**National Foremen's Institute, Inc.,** Deep River, Conn. Manual for supervisors entitled "The Federal Labor Laws."

**Dan River Mills, Inc.,** Research Engineering Division, Danville, Va. Booklet on "Fiber Bonded Processes," which contains a description of the processes together with illustrations of the newest models of machinery.

**Clark Equipment Co.,** Clark Tructractor Division, Battle Creek, Mich. Illustrated literature fully describing "Pul-Pac," a method for handling unit loads without pallets.

**The Torrington Company,** Bantam Bearings Division, South Bend 21, Ind. Manual No. 15—a combined engineering and application data reference volume No. 3 for ball radial, ball reciprocating, radial roller, taper roller, and thrust bearings.

# SUPPLIERS' NEWS

## WHAT THEY ARE DOING

The Aktivin Corporation has merged with the Heyden Chemical Corporation. Activities previously carried on by The Aktivin Corp. have been taken over by the Aktivin division of the Heyden Corp. Dr. R. Feibelmann will continue in his same capacity as general manager.

Vernon P. Moore, a native of Alabama, was recently selected by the Cotton Branch, Production and Marketing Administration, to succeed William J. Martin at the Stoneville Laboratory. Mr. Moore was cotton statistician of the Cotton Branch, Greenville, Miss., and cotton ginning specialist, Mississippi Agricultural Extension Service, prior to the war. Mr. Martin has been promoted to head the testing section in the Washington office of that branch.

**Mr. Morrow**

The Dixie Mercerizing Company, Chattanooga, Tenn., recently announced the appointment of P. D. Morrow, formerly associated with Scott & Williams, Inc., as a representative in North Carolina, South Carolina, and Virginia. Mr. Morrow's headquarters will be at Dixie's subsidiary plant, Mebane Yarn Mills, Mebane, N. C. He succeeds the late Fred Lemmond.

The Brown Instrument Co., Phila-


ATTENTION!

HERE ARE COMMENTS FROM MILL MEN

ON THE

WICACO SPINDLE OILING MACHINE

1—50% saving on Labor.
2—50% saving on Oil.
3—Labor saving $1000 per year per machine. (Many plants have two and three machines).
4—10% Power saving.
5—No yarn spoilage from overfilled bolsters.
6—Easily operated by female help.
7—No oil soaked tapes.
8—Cooler running spindles.
9—No oil drip on floor.
10—Refiltered oil has a greater affinity to cling to metal, offering better lubrication.

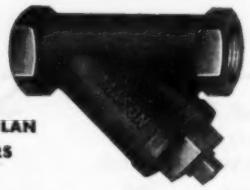
79th YEAR THE WICACO MACHINE CORP.
WAYNE JUNCTION, PHILA. 44, PA.

American Supply Company . . . 78 Fountain St., Providence, R. I.
Greenville Textile Supply Company . . . . . Greenville, S. C.
Odell Mill Supply Company . . . . . Greensboro, N. C.

# Mr. Pennypincher Has a Rival In MASON No. 11 Reducing Valves

When it comes to controlling steam pressures, you'll find that Mason No. 11 reducing valves provide accurate, dependable pressure control under all conditions normally encountered. Their sturdy construction and simple operating mechanism not only save you money by reducing waste but provide long life and cut maintenance costs as well.

Write for Catalog 73. It gives complete information on the Mason No. 11 as well as other types of Masoneilan reducing valves and regulators.



**MASONEILAN STRAINERS**

**Prevent scale, dirt chips, etc. from damaging regulator, traps, valves and pumps with Masoneilan strainers. They eliminate maintenance delays and save money.**

**MASON-NEILAN REGULATOR CO.**
1206 ADAMS STREET, BOSTON 24, MASSACHUSETTS

MASONEILAN

New York Philadelphia Pittsburgh Cleveland Chicago Tulsa Atlanta
St. Louis Houston Los Angeles San Francisco
Mason Regulator Co. of Canada, Ltd., Montreal, Canada

delphia, Pa., has announced the appointment of new sales and service engineers to its branches throughout this country and **Canada.**

Those named who will serve the principal textile centers are: Atlanta: E. P. Medlock and S. S. Simpson, sales, and W. S. Harper, E. H. Kytle and J. D. Tribble, service; Boston: J. D. MacNamara and E. H. Benson, sales, and D. E. Martelli, service; Charlotte: J. W. Hughes, sales; New York City: M. L. Boyle, A. Drexler and W. T. Hellegers, service; Philadelphia: S. L. McCarty, sales, and V. H. Turner, service; Toronto: R. H. Wright, sales, and J. R. Kent, service; and Washington, D. C.: E. J. Hart, service.

Mr. Park

Mr. McElroy

Four major organization changes have been made in the General Electric Lamp department sales district. T. W. Moore, for many years manager of the department's southeastern sales district, has retired from active service. Southeastern sales district is now divided into two districts, one being the Carolinas sales district, Charlotte, N. C., and the other carries the former name of southeastern sales district, Atlanta, Ga. Glenn E. Park, former district engineer, will manage the new Carolinas district. L. J. Campbell, former assistant district manager, has been appointed manager of the new southeastern sales district.

Burkart-Schier Chemical Co., Chattanooga, Tenn., has appointed Wallace C. McElroy as technical and sales representative in the New England area. He will make his headquarters at Lowell, Mass.

Robert L. Clause has retired as vice-chairman of the board of directors of the Pittsburgh (Pa.) Plate Glass Company. Mr. Clause also served as president of the firm for a three year period.

Hilma Seay, 21, Memphis, Tenn., is the 1947 Maid of Cotton. Miss Seay was chosen from among 26 contestants by a judges' committee including representatives from New York, Memphis, and New Orleans. First and second alternates chosen are Lauta Averett, 18, Ashburn, Ga., and Barbara Gregg Hood, 21, Hughes, Ark. Each of the alternates received a $100 savings bond.

Emery N. Cleaves, previously an independent consultant in management problems, has been appointed assistant to the president of the Celanese Corporation of America.

E. T. Cuddeback, after five years in the Army Air Forces, released as lieutenant-colonel, is now representing the Allis-Chalmers Mfg. Co. in the Atlanta, Ga., district office.

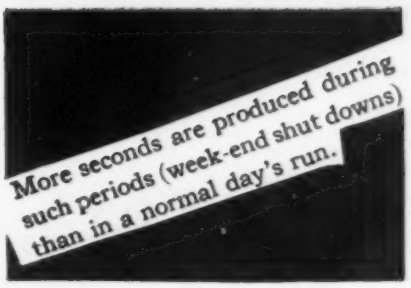
At the close of business last December, Aridye Corporation, heretofore a wholly owned subsidiary, became a division of its parent company and is now known as Interchemical Corporation—Textile Colors Division. The change is merely one in corporate organization. The division will carry on the manufacture and sale of Aridye Pigment Colors and Interchem Dyes.

Walter L. Sturtevant, chemical engineer at the Manhattan Rubber division plant, Raybestos-Manhattan, Inc., Passaic, N. J., was honored on his retirement at a dinner recently at Robin Hood Inn, Clifton, N. J. More than 100 friends and co-workers attended.

H & B American Machine Company, Pawtucket, R. I., has announced the promotion of Fritz Zweifel, former division sales manager of the company's Charlotte division, to general sales manager in Pawtucket. He is succeeded in Charlotte by Herman J. Jones, formerly attached to the Atlanta office. J. C. Martin is division sales manager of the Atlanta territory, and E. Haswell is continuing to cover the New England territory.

Stein Hall & Company, Inc., importers and manufacturers, has announced the opening of a New York sales branch office in the Empire State Building. This will be under the direction of C. J. Dunachie, manager, and E. M. Clevan, assistant manager.

The Calco Chemical division American Cyanamid Company, Bound Brook, N. J., has announced that a new sales unit, the Rubber Chemicals department, has been created. This department has been merged with the new Calco sales unit.


*Albert T. Russell in "Cotton", November, 1946*

●

When humidity in knitting mills with modern machines having close tolerances is allowed to drop over the week-end, the result on Monday morning is trouble for the fixers and loss of production and money. Mr. Russell in an article from "Cotton", quoted above, points this out.

**AIR-PERME-ATOR**

(dry humidification) 500 times finer than spray, maintains an even percentage of relative humidity, regardless of temperature fluctuations. It eliminates static, does much to prevent broken ends, split yarns, and uneven tensions, which add their share to the fixers' troubles, when the power goes on after the week-end stop.

We have much significant information about results obtained by the use of Air-Perme-Ator (dry humidification) in knitting and other textile plants. Won't you let us give it to you?

●

Air-Perme-Ator Systems are efficient and economical both to install and to operate. They are being used by many of America's leading textile manufacturers.

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*Write for illustrated folder "Air-Perme-Ator and Tricot Machines —A Production Team"—or literature describing the type of equipment in which you are interested.*

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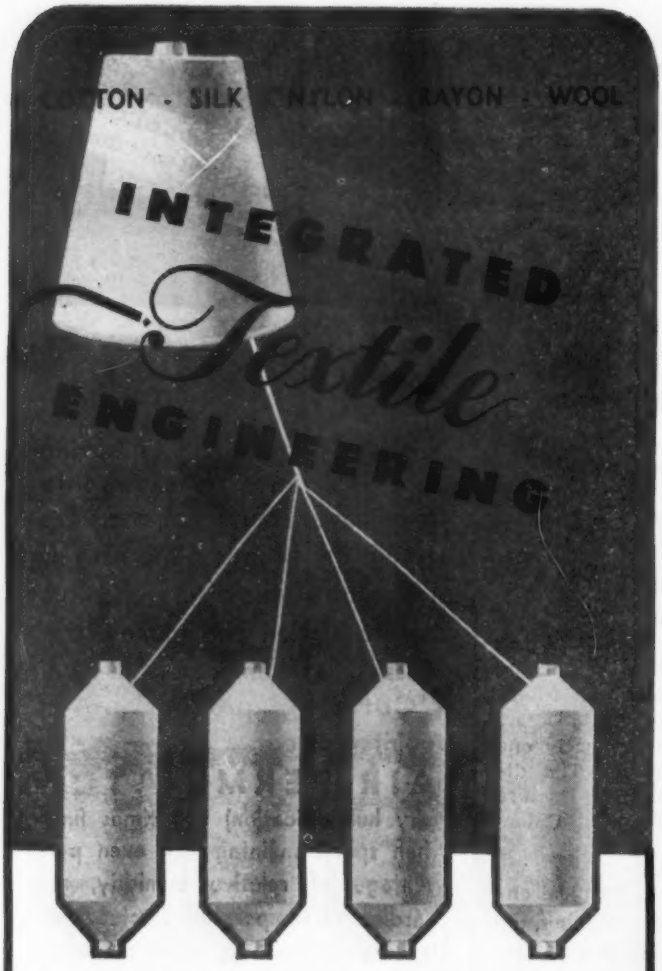
**AIR-PERME-ATOR MFG. CO.**

**302 Preakness Ave. Paterson 2, N. J.**




Building or modernizing a textile plant always involves many "non-textile" operations; for example, designing and constructing homes, schools and churches, installing power plants, water filtration plants, sewerage, air-conditioning. These tasks, and all others involved in your building project, can be handled efficiently by specialists within our own organization. Our 28 years of nation-wide service to the textile industry insures a thoroughly competent, economical solution of your problem. We invite your inquiry.

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INCORPORATED
*Architects and Engineers*
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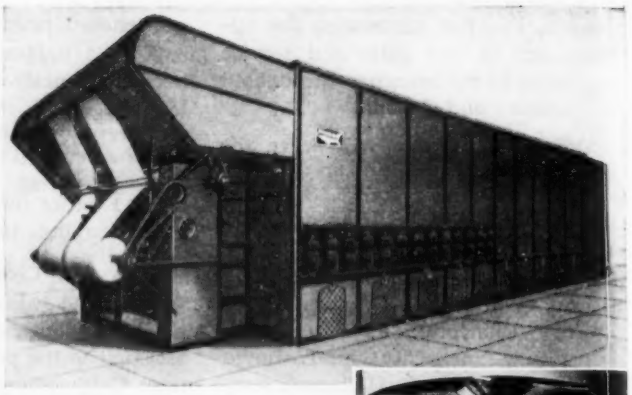
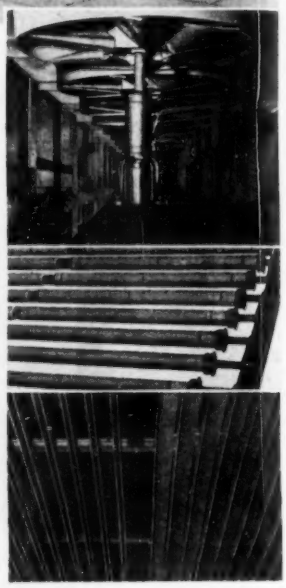




**THREE FEATURES**
*That Contribute to Faster, More Uniform Drying & Curing in*
**"NATIONAL"**
**AUTOMATIC PIECE GOODS DRYERS**

**HIGH-VELOCITY, ADJUSTABLE PITCH FANS...**

Direct motor driven and automatically oil lubricated, these patented aluminum fans generate the *maximum volume of air per unit horsepower*, and assure its continuous, effective circulation throughout the entire drying chamber. They are located in a separate compartment, on either side of the machine, and are easily accessible.

**REVOLVING, E-X-P-A-N-D-I-N-G CONVEYOR POLES...**

These patented poles automatically expand as they intermittently rotate, carrying the goods forward through the dryer in evenly spaced festoons, without bar marks or creases, and with the cloth uniformly exposed to the drying medium for the entire run.

**ADJUSTABLE AIR DIFFUSION...**

This is provided by independent control of the air in each half of the conveyor space through adjustable baffle plates located over the entire run of goods. Controls at delivery end of machine assure proper balance of air volume directed against the cloth. In multiple-width machines, this permits the uniform drying of both light and heavy goods *at the same time.*

OTHER ADVANTAGES of "National" design and construction include increased radiation surface, minimum air flow resistance, and higher operating speeds . . . all contributing to *faster, more uniform* drying and curing. Write for complete information.

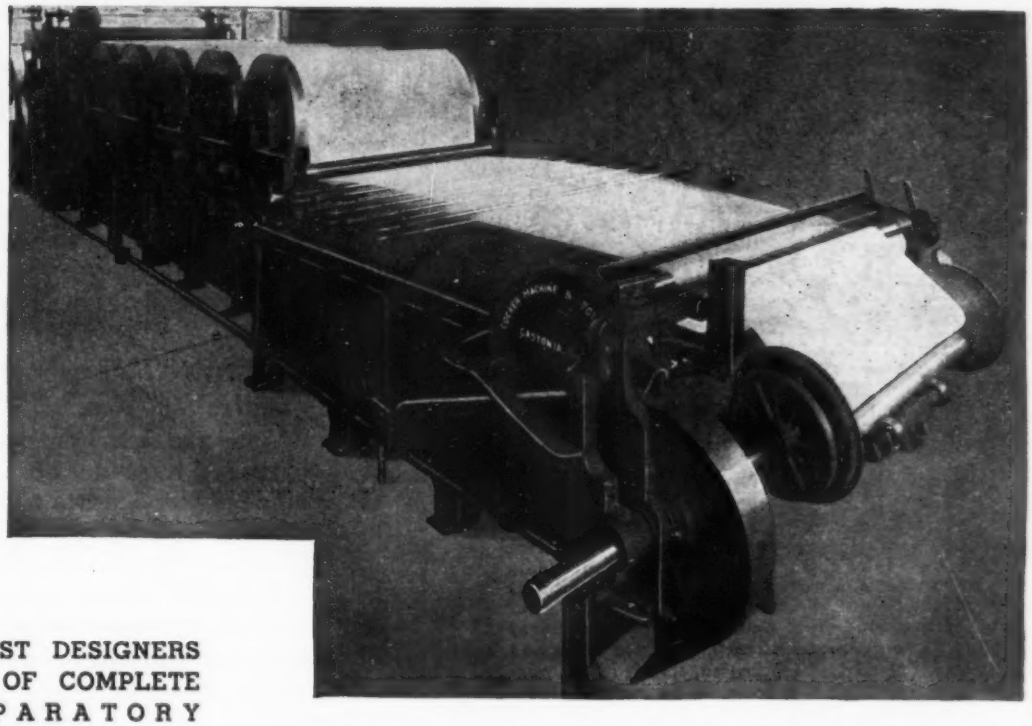
*Tenter Drying Systems* · *Yarn Skein and Stock Dryers*
*Print Goods Dryers* · *Chemical Dryers*

**THE NATIONAL DRYING MACHINERY CO.**
**N. HANCOCK ST. and LEHIGH AVE., PHILADELPHIA 33, PA.**
New England Agent—C. H. INGALLS, Providence, R. I.

# HEAVY BUILT

## for High Speeds

**The COCKER NINE CYLINDER HIGH SPEED SLASHER shown below is built very heavy to eliminate vibration when operating at high speeds.**



**WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT.**

*Our engineering staff is trained by years of experience to solve individual problems.*

**DESPITE its massive construction, it has highly sensitive push button controls which regulate its operation almost instantly. Tension between delivery rolls and cylinder sections is under constant control. The motor drive provides gradual acceleration and deceleration with easily adjusted operating speeds over a wide range. Friction is controlled in such a way that slip remains constant throughout the entire length of the warp. It assures properly wound loom beams and eliminates heating from friction.**

**The Cocker Nine Cylinder High Speed Slasher has many features which are not found on other makes of slashers. Write or wire for full information on this machine or on any other machine in Cocker's complete line of warping, sizing and beaming machinery.**

**COCKER**
**MACHINE and FOUNDRY**
**COMPANY**
GASTONIA, NORTH CAROLINA

# New Wool Oil Offers 7 Advantages

# TWITCHELL SOLUBE 463

We now have available a new oil which offers seven definite advantages to wool and worsted manufacturing operations —Twitchell Solube 463. Laboratory tests, mill tests, and actual production runs prove that this oil offers (1) easy scourability, (2) an economy of soap, (3) good dispersion in cold water, (4) efficient lubrication, that it is (5) non-staining, (6) non-oxidizing, (7) non-heating.

## How to Use SOLUBE 463

Applied by your regular methods as an emulsion of 4-6 parts water, one part oil.

**For lighter weight woolens** . . . scour (and full) with 3 to 5 ounces soda ash/gallon.

On heavier fabrics, in addition to soda ash, one-fifth usual amount of soap.

**For worsteds** . . . scour with normal amounts of soda ash plus one-fifth usual amount of soap.

**For knitting yarns** . . . apply as emulsion in preparatory gilling. Twitchell Solube 463 scours readily with synthetic detergents or reduced amounts of soap.

Make a proof-test run with SOLUBE 463, and compare results. Write us your requirements today.

**EMERY INDUSTRIES, INC.**

TWITCHELL TEXTILE OILS

CAREW TOWER • CINCINNATI 2, OHIO

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*STEARIC ACID • OLEIC ACID • ANIMAL AND VEGETABLE FATTY ACIDS • TWITCHELL PRODUCTS • PLASTICIZERS*

# TWO HEADS ARE BETTER THAN ONE

The most difficult sizing problem can be solved by putting two heads together. Your man and a NORTH service man together, can do it.

Every NORTH service man is a practical mill man with years of experience in sizing problems. We are prepared to render our usual prompt efficient service to all of our customers.

In cases where constructions of goods are being changed or changes in personnel have been made—causing problems to arise, a phone call or letter will bring our service man.

*FINISHING* **FINISH-RITE** *PRODUCTS* ★ *SLASHING* **WEAVE-WELL** *PRODUCTS*

*SHUTTLE* **GREASE-RITE** *TALLOW*

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*Manufacturing Chemists*

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(*Continued from page* 167)

WILLIAM ZOPFI, former mill superintendent, has been elected vice-president of Waumbec Mills, Manchester, N. H.

ARTHUR H. MAISNER has resigned as president and director of Bangor Mills, Inc., Bangor and Pen Argyl, Pa., and has disposed of his interest in the company to other members. Mr. Maisner plans to re-enter the textile field after a short vacation.

B. B. GOSSETT has resigned the positions of director of Textron, Inc., and chairman of the board of Textron Southern, Inc. Mr. Gossett is one of the founders of the Cotton Textile Institute.

WILLIAM J. ERWIN, former vice-president and assistant executive officer, has been named chief executive officer of Republic Cotton Mills, a division of J. P. Stevens & Co., Inc. He succeeds GEORGE M. WRIGHT. It is also made known that JESSE T. CRAWFORD, former superintendent at the Aragon-Baldwin Cotton Mills, Whitmire, S. C., has been appointed general manager of Republic.

MEYER H. KORN has been elected to succeed ARTHUR H. MAISNER, who, as noted, resigned, as president of Bangor Mills, Inc., Bangor and Pen Argyl, Pa.

CLOVAS M. BLACK, former superintendent, has been elected vice-president of Borden Mfg. Co., Goldsboro, N. C., to succeed the late PAUL L. BORDEN.

The following officers have been elected by the board of directors of the West Point (Ga.) Mfg. Co. and the Dixie Cotton Mills: JOSEPH L. LANIER, executive vice-president; FRANK B. WILLIAMS, vice-president in charge of industrial relations; JOSEPH L. JENNINGS, vice-president in charge of operations, and M. EARL HEARD, vice-president in charge of research. LEE TILLERY will succeed Mr. Jennings as superintendent of the Fairfax mill division of this concern.

## Obituaries

OSCAR HEINEMAN, 83, president of Oscar Heineman Corp., Chicago, Ill., yarn processors, died recently at the Passavent hospital.

WILLIAM A. FLOYD, assistant treasurer of Victor Monaghan Co., Greenville, S. C., passed away last Christmas day.

W. V. JERNIGAN, Cookville, Tenn., finishing superintendent for all mills of the North Star Woolen Mill Co., Minneapolis, Minn., died recently as the result of an accident at Lima, Ohio.

JAMES D. HUNTER, 85, president of the James Hunter Machine Company, died recently at his home, following an illness that began just before last Thanksgiving day.

BEN F. TAYLOR, assistant advertising manager for the American Air Filter Co., Inc., Louisville, Ky., died last December 21.

HENRY A. WOODHEAD, vice-president of Graniteville Company, passed away recently at his home in Aiken, S. C., following an illness of several months.

CHARLES A. SWEET, 60, chairman of the Iselin-Jefferson Co. finance committee, unexpectedly passed away recently at his home in Bronxville, N. Y.


**DRUMMOND SOAP**

*is*

***NOW AVAILABLE***

*in Flakes*

**THE SAME FEATURES PLUS { EASY TO USE / SUDS BETTER**

**You'll be hearing as much about the new DRUMMOND FLAKES now as about DRUMMOND SOAP in the past!**

Drummond Flakes are ideal for the textiles industry because they are so easy to use! And you couldn't get a flake that suds better! All this, and at the same time having the qualities of Drummond Soap: high body with low alkali content . . . leaves fabric perfectly clean with softest feel, brighter colors and whiter whites.

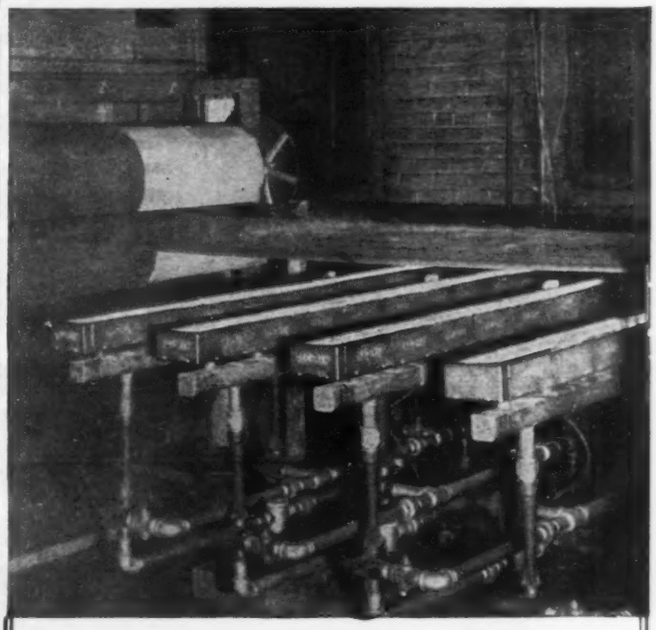
Try Drummond Flakes and note the difference in your fabrics. Drummond Soap is available in a big way, too. It's a matter of whether you prefer Flakes or Solid. You can't go wrong if they're DRUMMOND.

Want to try DRUMMOND Flakes and Soap? Just write us today for free working samples and test them on your own goods.

Standard Soap co. of camden

205 South 2nd St. Camden, N. J.

Woonsocket, R. I. G. TANGUAY 151 HARRIS Ave.



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PRE-DRYING
AHEAD OF DRYER

*Write for Bulletins*

**RED-RAY MANUFACTURING CO., INC.**

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MANUFACTURERS—

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Financing production and distribution with maximum efficiency, and at a minimum of risk, is best accomplished through the financial and credit checking services of a strong factoring organization.

Increased sales volume without increased fixed invested capital, accelerates turnover and should yield greater profits.

Write today for details.

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*Check Credits • Cash Sales • Absorb Credit Losses*

# HELPFUL BOOKLETS FREE

**Here is the "cream of the crop" of literature on textile subjects as prepared by TEXTILE INDUSTRIES advertisers for aid in mill operation and management. These reference books and catalogs are free for the asking and there is no obligation involved. Read through the list carefully for booklets on the subject or equipment in which you are interested. Then fill in the numbers of those desired on the coupon on the following page and mail it to TEXTILE INDUSTRIES.**

***This Service is restricted to those engaged in operation and management of textile industries.***

## GENERAL ECONOMIC, MANAGEMENT . . .

**4. HOW FACTORING CAN INCREASE PROFITS**—Describes how factoring works out in keeping clients' capital liquid and attitude of factor toward checking credits, including typical balance sheet.—COMMERCIAL FACTORS CORP., New York City.

**5. FACTORING AND FINANCING** — Illustrated booklet on how factoring works, cost and credit information.—TEXTILE BANKING COMPANY, New York, N. Y.

**6. SERVING THE TEXTILE INDUSTRY**—Illustrated booklet on services of textile and industrial consultants in assisting mill management.—WERNER TEXTILE CONSULTANTS, INC., New York 17, N. Y.

## PLANT AND PLANT MAINTENANCE . . .

**102. "TANK TALK"**—Sixteen page booklet of illustration showing various types of elevated steel tanks, constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said.—R. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

**107. FINNELL SCRUBBERS** — Illustrated leaflets describing and giving specifications for the new Finnell floor scrubbing machines.—FINNELL SYSTEM, INC., Elkhart, Ind.

**108. RIHCO TYPE B HUMIDIFIER HEADS**—Bulletin describes new atomizers with construction lessening air consumption. — ALDRICH MACHINE WORKS, Greenwood, S. C.

**115. ATOMIZER HUMIDIFIERS**—Recent issue of "Parks' Parables" on Turbomatic self-cleaning humidifiers. — PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

**120. SCALES FOR THE TEXTILE INDUSTRY**—12-page book illustrating modern, automatic-indicating scales for all requirements of the textile industry.—TOLEDO SCALE COMPANY, Toledo, Ohio.

**129. BAHNSON OPEN HEAD HUMIDIFIER**—Bulletin 327 describes operation ,function of latest design centrifugal humidifier. — THE BAHNSON COMPANY, Winston-Salem, N. C.

**130. BAHNSON HUMIDUCT PRECIPITRON**—Describes principle application of air conditioning system combined with Westinghouse Precipitron air cleaning unit.—THE BAHNSON COMPANY, Winston-Salem, N. C.

**132. ROOF INSUATION**—Literature on new PC Foamglas Insulation for protection dampness, moisture damage. — PITTSBURGH CORNING CORP., Pittsburgh, Pa.

**135. SAFETY COLOR CODE**—How six standard colors can be used to reduce hazards, cut down accidents.—E. I. DU PONT DE NEMOURS & CO., INC., Finishes Division, C44, Wilmington, Dela.

**138. MAGNESIUM IN THE TEXTILE INDUSTRY**—Illustrated booklet on properties of magnesium for spinning, twisting, winding, knitting machines, looms, beams, spools, bobbins.—ALUMINUM CO. OF AMERICA, Pittsburgh, Pa.

**139. AIR FILTRATION AND DUST CONTROL**—34 pages on atmospheric control, including engineering data.—AMERICAN AIR FILTER CO., INC., 275 Central Avenue, Louisville 8, Ky.

**146. YOUR FLOORS ARE IMPORTANT TO YOUR MILL'S PRODUCTION**—Illustrated book on reducing cleaning costs, preserving floors. — G. H. TENNANT CO., 2585 N. Second St., Minneapolis, Minn.

**147. STUDY OF VIBRATION IN PLANT MACHINERY**—Illustrated booklet on use wool felt for mounting looms, spinning frames.—THE FELTERS CO., Boston, Mass.

**150. RADIO FREQUENCY HEATING** — Applications dielectric heating for twist-setting, cake drying, dye package drying. — WESTINGHOUSE ELECTRIC CORP., Pittsburgh, Pa.

**151. INDUSTRIAL BRUSHES**—Illustrated Booklet of industrial brushes featuring textile usage on shears, printing machines—also flock, raising and cylinder brushes.—M. W. JENKINS SONS, INC., Cedar Grove, N. J.

**152. AIR CONDITIONING FOR THE TEXTILE INDUSTRY**—40-page illustrated book covering air conditioning from humidity control to complete refrigerated conditioning with installations, charts, covering ABC's of cooling textile mills.—CARRIER CORP., Syracuse, N. Y.

**153. AUTOMATIC FORK TRUCKS** — Data on materials handling with electric trucks. — AUTOMATIC TRANSPORTATION CO., Dept. X., Chicago, Illinois.

**154. HUMIDITY FOR TEXTILES** — Illustrated booklet on controlled humidity for various departments, all fibers.—WALTON LABORATORIES, INC., Irvington, N. J.

## POWER TRANSMISSION, MOTORS, BELTING, LUBRICATION . . .

**210. GOODYEAR MECHANICAL RUBBER GOODS CATALOG**—40 page catalog giving practical information and tables helpful in the selection of the proper belting, hose or packing to suit the requirements of the mill.—GOODYEAR TIRE & RUBBER CO., Akron, Ohio.

**216. LEATHER BOOKLET NO. 202** — Attractive booklet illustrating and describing BONDARON Special Tanned Leather as used in various forms such as Check Straps, Pickers, Harness Straps, Lug Straps, Bumper Straps, Solid Round Leather Belting, Flat Belting.—CHAS. BOND CO., Philadelphia, Pa.

**225. BRONZE BEARINGS**—64 page catalog of standard sizes of textile and industrial bearings, graphited oil-less bearings, bronze bars, babbitt metals.—THE BUNTING BRASS AND BRONZE CO., Toledo, O.

**230. PRINCIPLES OF TEXTILE MILL LUBRICATION**—Booklet giving specific lubrication problems and data on practical textile operation, including advice on uses of various oils and greases.—TIDE WATER ASSOCIATED OIL CO., New York, New York.

**231. V-BELT ENGINEERING DATA BOOK**—Over 50 pages of pertinent engineering information including data on selecting a V-belt drive design of special V-belt drives, numerous standard tables, charts and belt and sheaves list prices. — MANHATTAN RUBBER MANUFACTURING DIV. of Raybestos-Manhattan, Inc., Passaic, N. J.

**232. SKF INDUSTRIES SPHERICAL ROLLER BEARINGS**—36 page catalog on bearing applications and selection, also time saving computations.—SKF INDUSTRIES, INC., Philadelphia, Pa.

**235. JOHNSON LEDALOYL BEARING BRONZE**—Illustrated booklet telling the complete story of Johnson Ledaloyl Bronze, the newest dvelopment in self-lubricated bronze for textile bearings and bushings.—JOHNSON BRONZE COMPANY, New Castle, Pennsylvania.

**236. LEATHER BELTING CALCULATOR**—Handy and attractive calculator for determining belt, speeds, horsepower per inch of belt widths, etc., will be sent free on request.—J. E. RHOADS & SONS, Philadelphia, Pa.

**237. FAFNIR BALL BEARINGS FOR THE TEXTILE INDUSTRY**—Outlining the application and advantages of ball bearings on textile machinery.—FAFNIR BEARING CO., New Britain, Conn.

**244. TEXACO SPINDURA OILS**—Folder on lubrication for all types of spindles, based on actual tests.—TEXAS CO., New York City.

**246. CUTTING OPERATING COSTS**—Nationwide Illustrated Survey showing how American textile mills cut operating costs with Multiple V-Belt Drives.—GATES RUBBER CO., Denver, Colorado.

**259. HOW TO GET THE MOST FROM YOUR LEATHER BELTING**—Illustrated booklet on leather belt installation, maintenance; cleaning; dressing; aligning shafting, pulleys.—SOUTHERN BELTING CO., Atlanta, Ga.

**262. THE SERVICE FACTOR**—complete lubrication guide for cotton and woolen mills.—SINCLAIR REFINING CO., New York 20, N. Y.

**263. NEEDLE ROLLER BEARINGS**—Catalog Engineering and Application Data Edition 32 contains full data on selection of proper Needle Roller Bearings and outlines uses of such in various commodities including textile uses, types, installations, lubrication, etc. — TORRINGTON COMPANY, Torrington, Conn.

**264. NEW DEPARTURE SHOP MANUAL**—Illustrated catalog showing ball bearing mounting and maintenance practice. Covers storage, cleaning, lubrication, types of bearings.—NEW DEPARTURE DIV., GENERAL MOTORS CORP., Bristol, Conn.

**267. CAUTION** — Descriptive booklet on new Alemite Coloroute plan of lubrication including machine and lubricating equipment analysis.—ALEMITE, 1884 Diversey Parkway, Chicago 14, Ill.

**268. LUBRIPLATE FILM** — Lubrication service handbook.—FISKE BROS. REFINING CO., Newark 5, N. J.

## INSTRUMENTS, STEAM SPECIALTIES . . .

**301. JOHNSON ROTARY PRESSURE JOINTS**—Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instructions, types, sizes, dimensions and prices. — THE JOHNSON CORP., Three Rivers, Mich.

**306. TEMPERATURE CONTROLLERS** — 48-page Illustrated Bulletin 225, describing instruments and accessories essential for efficient dyeing, finishing, slashing, mercerizing, kier boiling, and other processes involving temperature.—THE FOXBORO COMPANY, Foxboro, Mass.

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## CARDING, SPINNING, WINDING, ETC. . . .

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*Continued on Page 192*

*Continued from Page 191*

**429. HAVE YOU CHECKED YOUR DRAWING SLIVER RECENTLY?**—Folder on drawing and drawing rolls.—MEDLEY MANUFACTURING CO., Columbus, Ga.

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**433. AUTOMATIC TRAVELING CLEANERS**—Recent issue of Parks' Parables on automatic cleaners for spinning, warping, twisting.—PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

**434. WINDING MACHINES—WORK LOAD CALCULATIONS**—Reprints of series on winder operations from labor standpoint.—UNIVERSAL WINDING CO., Providence, R. I.

## WEAVING, SLASHING . . .

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**510. THE ROMANCE OF PRAIRIE GOLD**—Attractive illustrated book which tells the story of corn and the uses of corn products in industry.—CORN PRODUCTS SALES CO., New York, N. Y.

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## DYEING, FINISHING, CLOTH ROOM . . .

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**610. PROCTOR DRYING MACHINERY FOR THE TEXTILE INDUSTRY**—Illustrated descriptive catalog on all types of dryers for raw stock, warps, package dyed and automatic skein yarn. Also includes Preboarding and Automatic Boarding machines for hosiery.—PROCTOR & SCHWARTZ, INC., Philadelphia, Pa.

**611. BRUSHING AND SHEARING MACHINES**—Illustrated literature on the new Hermas Brushing Machine for use light sheeting to heavy ducks; also on Hermas AV Shears.—HERMAS MACHINE CO., Hawthorne, N. J.

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**614. STRIPS IN ROLLS**—Form No. CF-642 illustrated folder showing over 25 slitters and roll winders for textile.—CAMERON MACHINE CO., Brooklyn, New York.

**616. ENGINEERING PROPERTIES OF MONEL**—Technical Bulletin T-5, giving detailed information on strength and ductility, working properties, resistance to various types of corrosion and other data on Monel Metal. — INTERNATIONAL NICKEL CO., INC., 67 Wall St., New York, N. Y.

## DYESTUFFS, CHEMICALS, SOAPS . . .

**704. THE TEXTILE APPLICATION OF METASOL (CALGON)**—Handbook with detail information covering the use of Metasol in Scouring, Bleaching, Dyeing and Finishing.—BURKART-SCHIER CHEMICAL CO., Chattanooga, Tenn.

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**711. KEY PRODUCTS FOR TEXTILE INDUSTRY**—23 page leaflet describing textile specialties used in dyeing, bleaching and finishing as applied to Southern textile industry from Southern plants of AMERICAN CYANAMID & CHEMICAL CORP., Charlotte, N. C.

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**732. A NEW FINISHING OIL**—Folder on Waroo 945-A finishing agent where softness is desired.—WARWICK CHEMICAL CO., West Warwick, R. I.

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**743. HOOKER ELECTROCHEMICAL GENERAL PRODUCTS LIST**—Bulletin 100, listing approximately 160 chemicals, including 15 new products, giving descriptions and characteristics of each chemical and its uses.—HOOKER ELECTROCHEMICAL COMPANY, 14 Forty-seventh St., Niagara Falls, New York.

**744. PIGMENT PRINTING AND DYEING**—18 page book on application pigment colors past, present and future.—INTERCHEMICAL CORP., TEXTILE COLORS DIV., Fair Lawn, N. J.

**745. LIXATE PROCESS FOR MAKING BRINE**—36-page booklet on making and use of brine in dyeing. — INTERNATIONAL SALT CO., Scranton, Pennsylvania.

**746. CORASIL RT**—Technical bulletin on Drew Tested Synthetic Softener, Plasticizer, other agents for Rayon crepe soaking, warp sizing.—E. F. DREW & CO., Boonton, N. J.

## KNITTING . . .

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## MATERIALS HANDLING . . .

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**1007. HOW HANDLING PROBLEMS HAVE BEEN SOLVED**—A 50-page booklet presenting in pictorial form many solutions to industrial handling problems and showing how they reduce costs, save labor, eliminate storage and provide free movement of stock between processes.—AMERICAN MONORAIL COMPANY, Cleveland, Ohio.

**1015. MATHEWS ROLLER CONVEYERS**—Illustrated booklet showing typical installations material handling with roller conveyers.—MATHEWS CONVEYER CO., Ellwood City, Pa.

**1019. CONVEYORS BY STANDARD** — Catalog C-126 for ready reference on materials handling.—STANDARD CONVEYOR CO., North St. Paul Minnesota.

**1020. BALING**—Illustrated folder on strapping textile boxes to ship as bales.—ACME STEEL CO., Chicago, Ill.

## MISCELLANEOUS . . .

**1102. REPAIR PARTS FOR TEXTILE MACHINERY**—36 page booklet and catalog on replacement parts for opening, picking, carding, spinning and twisting machinery. — HENDERSON FOUNDRY & MACHINE CO., Hampton, Ga.

**1103. UNBRAKO SCREWS**—Illustrated 16 page booklet No. 570 gives data on Unbrako hollow set screws, with knurled point, self-locking features. Included miscellaneous screw and locking nut data.—STANDARD PRESSED STEEL CO., Jenkintown, Pennsylvania.

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TEXTILE INDUSTRIES, Grant Bldg., Atlanta, Ga.

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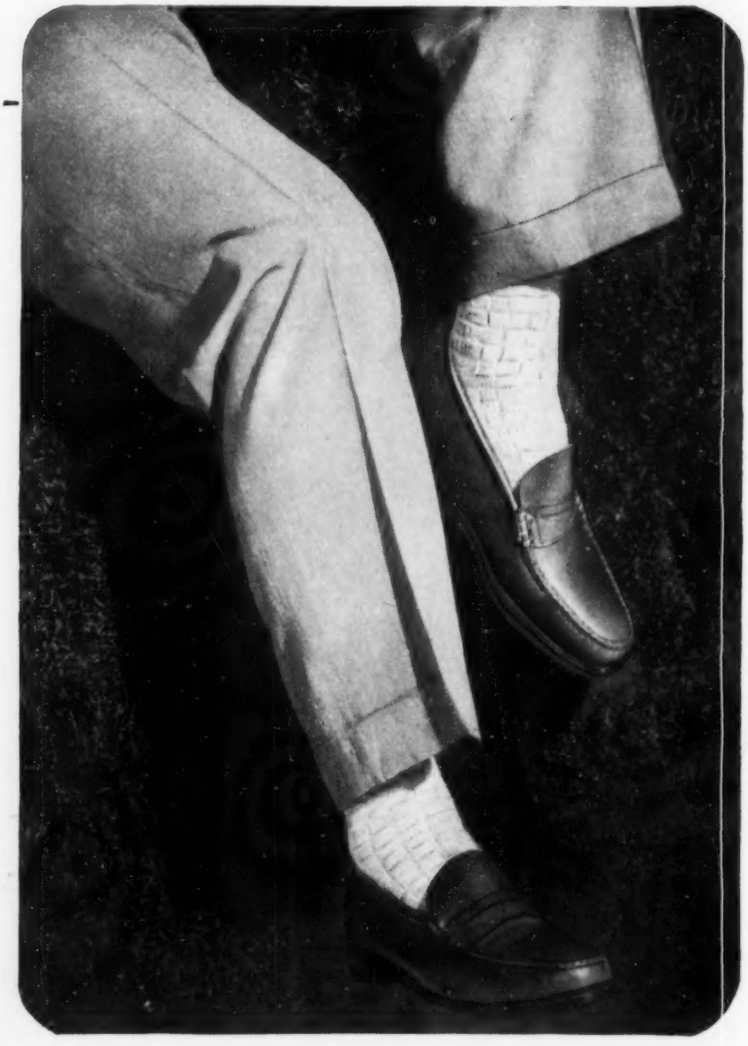
THE FIRST AMBULANCE SERVICE in the U.S.A. was started in 1869 at Bellevue Hospital in New York City. It consisted of two horse-drawn delivery-type wagons, each of which was equipped with a box under the driver's seat containing "a quart flask of brandy, two tourniquets, a half dozen bandages, a half dozen small sponges, some splint material, pieces of old blanket for padding, strips of various lengths with buckles, and a 2-ounce vial of persulphate of iron."



THE FIRST AMERICAN MADE KNITTING MACHINE to produce Links-and-Links patterning in hosiery was the Komet Links-and-Links Machine, produced by Scott and Williams in 1939. This machine, which knits an almost unlimited variety of rib patterns, designs and fancy stitches, including argyle block patterns, in top, leg and foot, is one of the most versatile machines ever built. It is an outstanding example of S&W development work, which has pioneered many "famous firsts" that build business for the circular knitting industry.

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# KNITTING SECTION

# Modernization and Maintenance in Knitting Mills

By WILL SAGE

PERHAPS AT NO TIME in the history of knitting has modernization and maintenance been more important and more difficult. Important because we are entering a cycle in the post war period when goods once more will have to be sold in a highly competitive market, and difficult because the supplies that we need to keep a knitting mill modern are still hard to get, even at sky high prices.

Machinery in many instances is badly in need of overhauling due to being pushed to the limit during the war, with inexperienced and insufficient help trying to keep it in repair, and supply parts hard to find.

With few materials and supplies needed to keep the wheels turning, with wages at an all time high, knitting mills will have to really bear down on production cost problems in order to show a modest profit, if any.

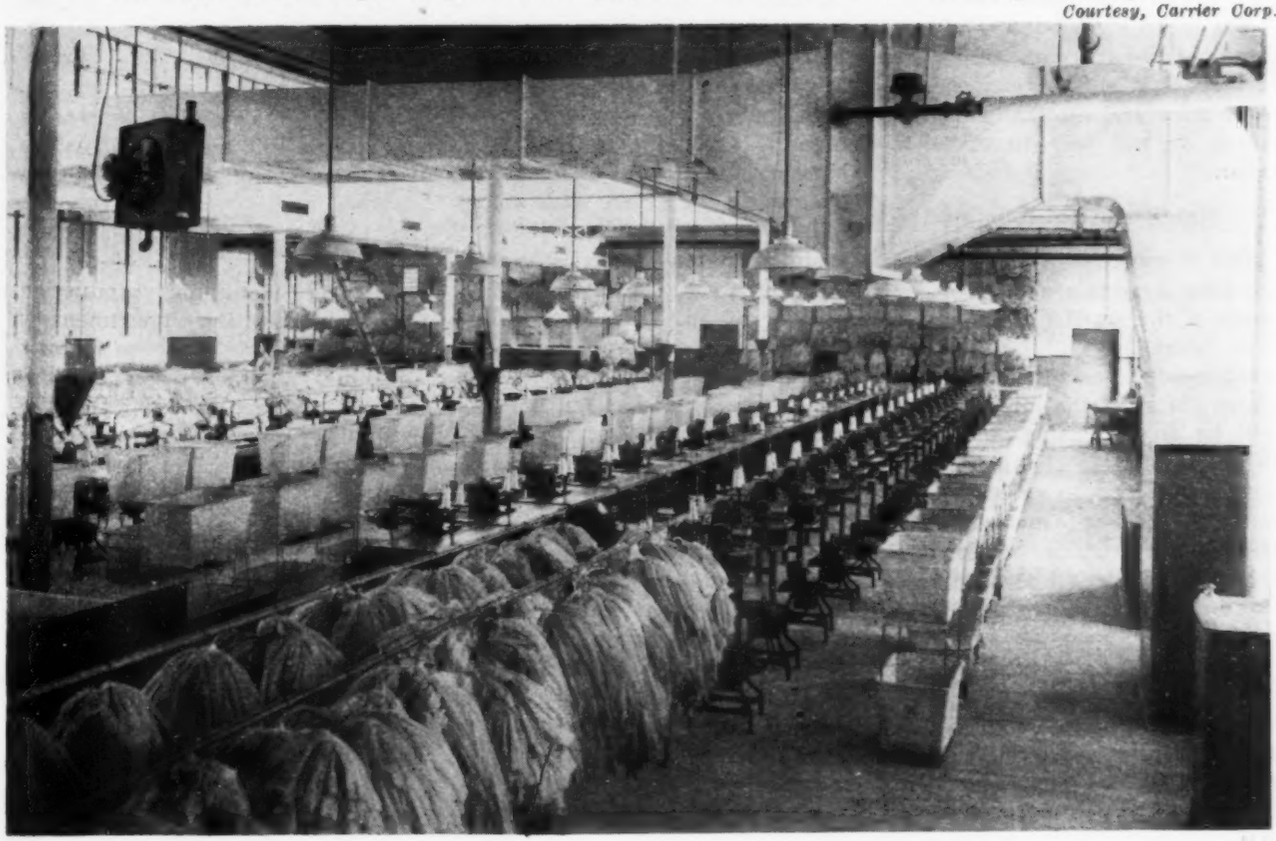
Labor leaders are adding fat to the fire by creating doubt, unrest, and mistrust in the minds of employees, and Government is slowly but surely strangling free competitive enterprise.

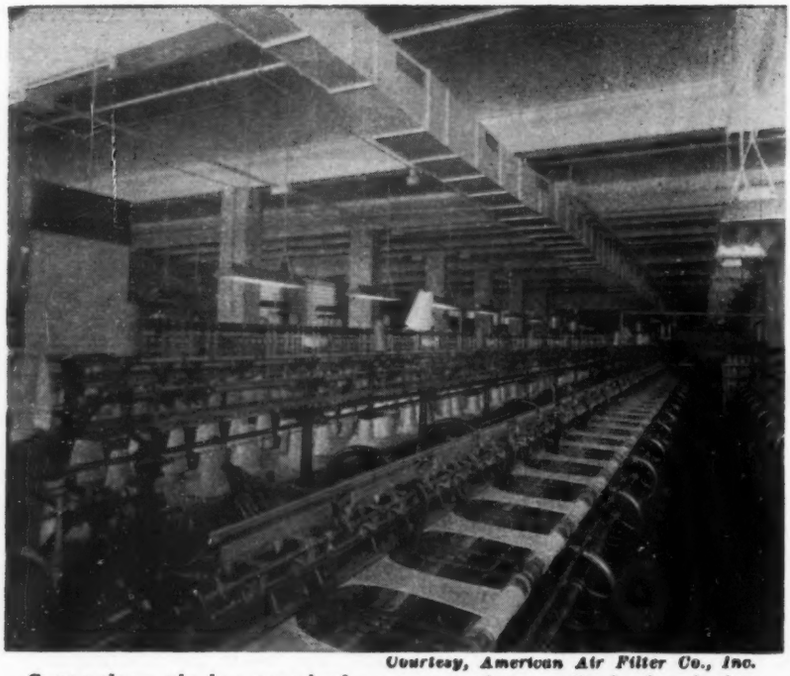
Many mill owners for the first time since the war are worrying about their new line; salesmen will soon be sending samples to the home office saying so and so is making the following numbers at the following prices—how can they do it? Yes, we in the knitting mills are about to get into the harness once more. The days of coasting along are over and we are at the bottom of a long hard up-hill pull.

The all important item as we see it is new, modern, up-to-date knitting machinery. Many mills made fairly large installations just prior to the war; they were wise

**Air conditioning is used in the finishing, storage, grey process, and boarding rooms at Archer Hosiery Mills, Columbus, Ga. Centrifugal refrigeration is employed to assure positive control throughout the year.**

*Courtesy, Carrier Corp.*





*Courtesy, American Air Filter Co., Inc.*

**Super-clean air is recognized as one modern method of reducing the number of breakdowns on full-fashioned machines. View of a portion of 120 full-fashioned knitting machines in a plant producing 15,000 dozen hose per week. Air-filtering equipment is used in connection with this air conditioning system.**

or fortunate or both. Some are getting in a few new machines now and are amazed at their cost in comparison to pre-war prices. Still they are better off than a mill loaded to capacity with obsolete machinery which can only produce low end merchandise.

The foregoing is but a brief summary of what many mills are facing. It is not a pretty picture, to be sure, and especially in mills which do not sell direct to retailers.

### Maintenance of Building

Due to scarcity and high cost of building materials and labor, not many of the smaller mills will go into revamping of buildings or making additions to present floor plans. Most of the improvements will be on the inside, and rightfully so, for here changes for the better will tend to speed up production, reduce manufacturing costs, and produce better merchandise. So let's look on the inside and see what can be done to modernize.

Once more paint is available and many mills need painting badly, especially in the knitting, looping, grey inspection, and finishing departments. In these departments light is a very important factor, and even though a given department has sufficient windows to let in a maximum amount of daylight, and have up-to-date lighting equipment, a fresh coat of good paint will make a decided improvement.

Most mills are using fluorescent lighting, but many are not getting the full benefit this equipment will give (if the installations are properly made) simply because they permit the reflectors and tubes to become grimy and dirty. Measure the amount of light from one unit at a given spot with a light meter, then clean the unit thoroughly and repeat the test. Multiply the gain by the total number of units and you will be amazed at the loss of light that dirt and grime are causing. Modern equipment loses much of its value when maintenance falls down.

We find many mills using window shades of one kind or another to keep out glare, or even painting the windows and then burning lights in daylight hours. There is glass on the market which will reduce glare and still permit a maximum amount of daylight to enter. This will cut down on your light bills and help pay for these installations.

Modern methods of destroying mice, rats, and roaches have been developed; these pests do much of damage in addition to creating an unsanitary plant.

First aid equipment and trained first aid personnel were considered modern many years ago. Many mills still can improve here and benefit.

### Fire Equipment

How many mills have fire drills? And how many have employees who understand the use of fire-fighting equipment? Does anyone inspect the plant for fire hazards except the insurance inspector who comes at regular intervals? Who sees that the inspector's recommendations, if any, are put into practice?

These are but a few things which fit squarely into the modernization and maintenance picture today. We have merely scratched the surface; suppose you carry on from here.

### Knitting Departments

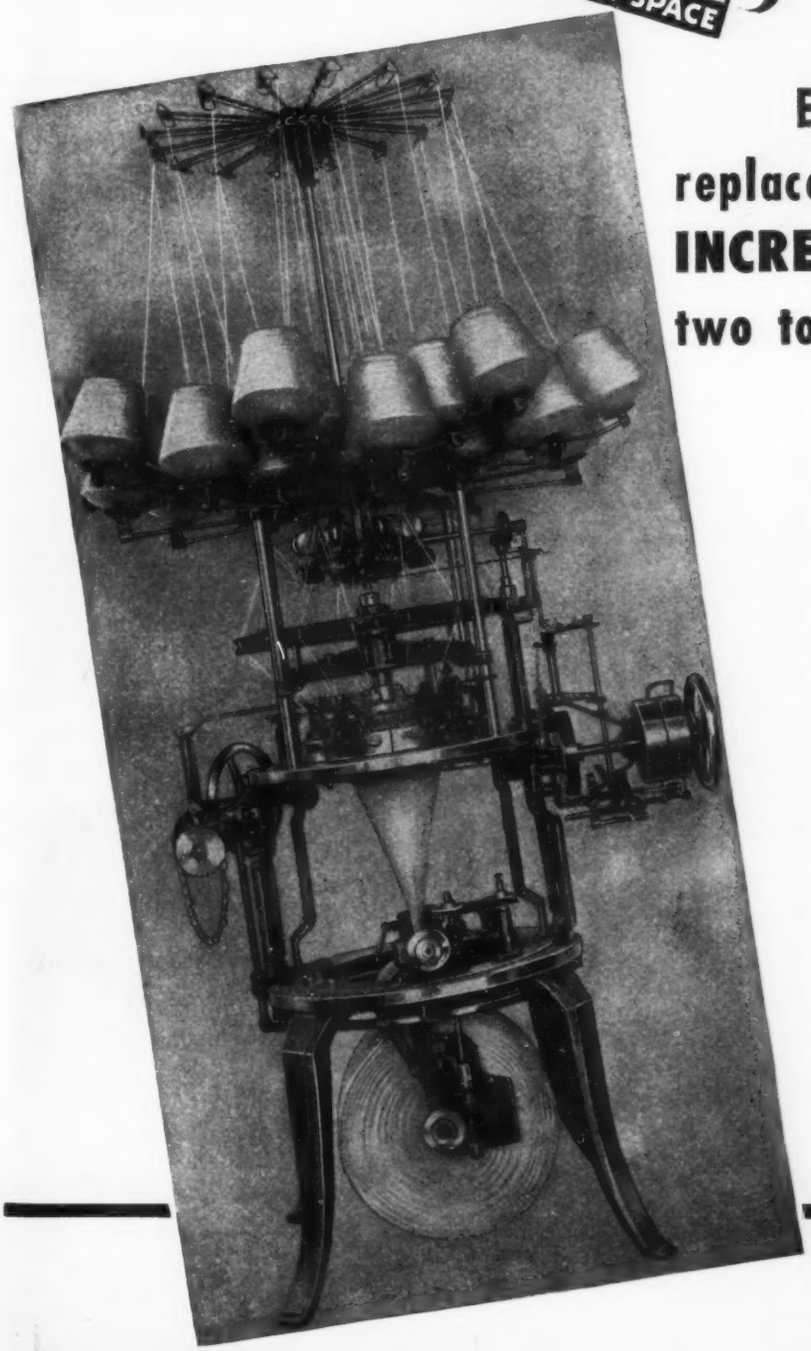
A well known mill owner, for whom the writer has great respect, once said, "In the seamless hosiery business keep your eyes on the knitting departments, that's where you make or lose money."

In making that statement he was not belittling the other departments. They are equally important, but the very best they can do is to complete the job started by the knitting departments, since their very best efforts will not turn seconds and waste made on the knitting machine into perfect work.

Getting maximum production from any knitting department is governed mainly by three factors: machines, machine fixers, and operators. We are assuming that the styling is right, that yarns are suitable to machines, and that supervisors know what it's all about. Machine fixers should keep their machines in first class shape, and they have a perfect right to expect management to supply genuine repair parts; management in turn has a perfect right to expect results. The daily production reports will tell whether or not your machine fixers are getting results.

Good operators are equally important; therefore, hire the right

8-FEED MACHINE { PRODUCTION SAME FLOOR SPACE } WILDMAN MACHINE



## Every **WILDMAN** that replaces an 8-feed machine **INCREASES PRODUCTION** two to three **TIMES**

That's the comparative score as leading knitting mills throughout the country have found. Without requiring even an extra inch of floor space, and using only about a third more power, the

**WILDMAN MULTIPLE-FEED RIB MACHINE**

will deliver two to three times the volume that that floor space has ever produced before. A simple, direct provable statement. Besides, this machine makes a finer, cleaner, more uniform product, gives trouble-free performance and offers many special and exclusive operational advantages.

**WILDMAN MFG. CO., Norristown, Pa.**

type and see that they are properly and thoroughly trained. Of utmost importance is the spirit of cooperation between operators and machine fixers. Both should understand that each is dependent upon the other, and that it takes teamwork to get production.

### Teach Operators the Value of Supplies

Every employee in the knitting departments should know the value of yarns, machines, machine parts, needles, and supplies. They will have more respect for the equipment and supplies they use if they know something about their cash value.

A mill equipped with modern, fully automatic machines, designed to produce high grade goods, will have a much better opportunity to meet coming competition and show reasonable profits than one loaded with obsolete machinery. The latter pays just as much for yarns, labor, and sundry supplies, and then must show a profit on low end merchandise.

There is, of course, the possibility of adding various devices and attachments which will help modernize older equipment to a certain degree, but such a plan will bring relief for a season or two at best. Machines designed for plain goods only stay put or pass out of the picture. They cannot be rebuilt into modern, up-to-date machines, and sooner or later they must be replaced.

### Temperature Control

It takes more than modern knitting machines to make a modern knitting department.

New machines are complicated, and good heating facilities regulated by automatic temperature controls are essential. Extreme and sudden variations in temperature can ruin a day's production on complicated machines. Production goes down and manufacturing cost goes up when proper operating temperatures are not maintained.

During the winter months it is best to keep temperatures up over week-ends. Although a knitting room can be heated in short order on Monday morning, knitting machines weighing five to seven hundred pounds each will require more than a few hours of maintained temperature to get them warm enough to run properly.

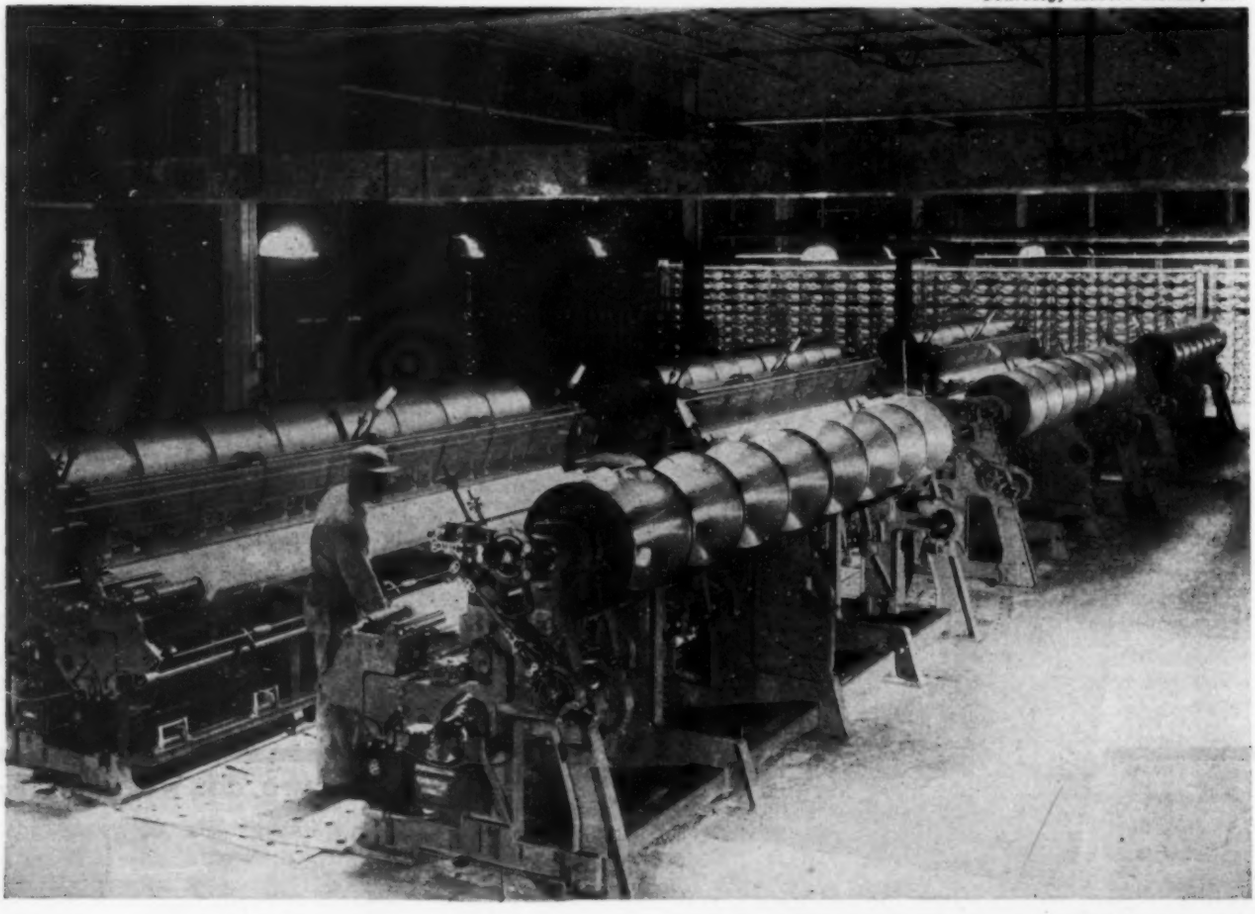
When motors howl and belts squeal it may be that something has gone wrong with the heating system; and though coal may be expensive, needles, machine parts, yarns and waste are also expensive items.

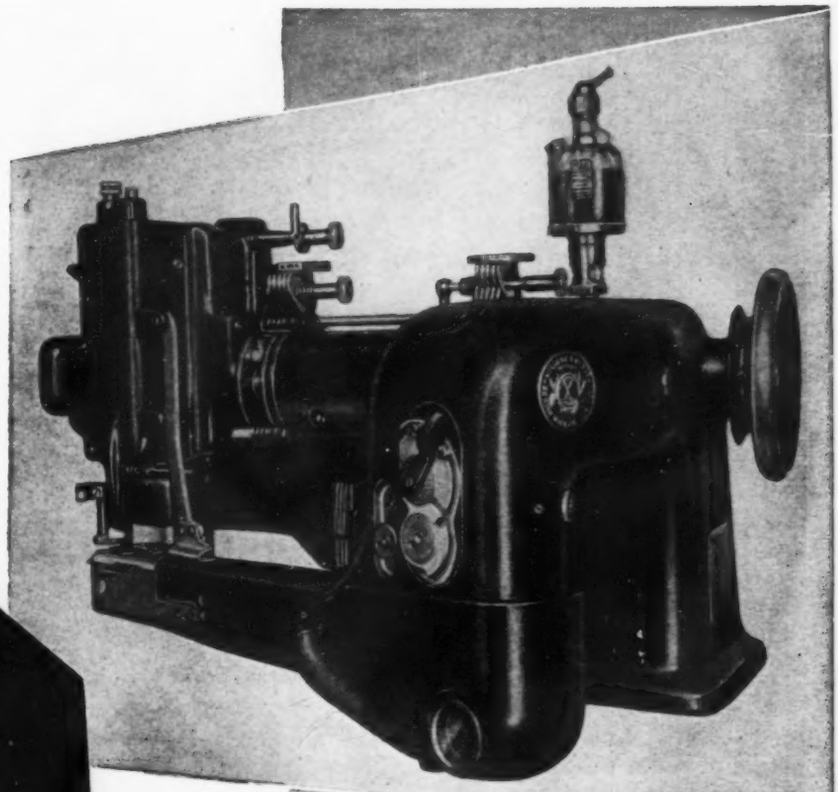
### Fixers' Equipment

A modern knitting department should have good work benches, grinding and buffing equipment, a good drill press, and a gas-burning oven to heat and temper tools or machine parts. Portable blowers, or still better a compressed air unit with pipe line outlets in various places in the machine lines, are necessary to keep machines clean. Even minor wads of lint

**High-speed tricot machines recently installed at Ko-Nit Mills, Englewood, N. J. Magazine creel is shown.**

*Courtesy, Robert Reiner, Inc.*





● **The "Flatlock" makes perfectly flat seams made up of but one thickness of the fabric.**

# TESTED and PROVED

Tested and proved over a period of 35 years, the "Flatlock" has yet to meet any serious competition for producing perfectly flat seams on all grades of knitted fabrics.

While fundamentally similar in design to earlier models, the machine today, has many improved features which ensure greater production—better work—lower maintenance costs.

***Send for Illustrated Descriptive Bulletin No. 902***

**SINGLE SOLID BASE:**
Provides better facilities for disposing of work after sewing—greater comfort and efficiency for operators.

**REMOVABLE END CAP:**
Conveniently located at the forward end of Work Arm—facilitates removal of lint and filler.

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Accessibility to the Loopers is obtained by merely swinging the entire Looper Holder outside of the Arm for threading.

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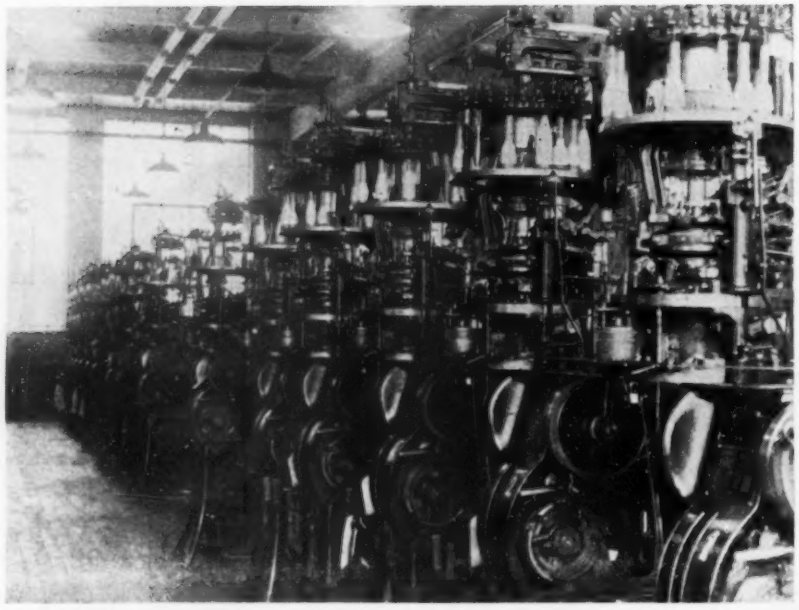
Provides smooth and efficient operation. Many oil holes formerly required for manual oiling are eliminated.

**NEEDLE BAR DRIVE:**
This improved mechanism smoothly transfers the drive direct from the Crank on Main Shaft to the Needle Bar itself.

**SELF-SETTING NEEDLES:**
All Needles used in The "Flatlock" are self-setting — Constructed so that they automatically locate in the correct relative position to the Loopers.

**WILLCOX & GIBBS SEWING MACHINE CO.**
**214 West 39th Street, New York 18, N. Y.**



"Keep your eyes on the knitting department."

forming in dangerous places can be the direct cause of a ten dollar repair bill on today's modern machines.

**Power Transmission**

Machine speed is a very important factor. And since properly maintained shaft and machine speeds are essential, a dependable speed recording device will stop many arguments and help speed up production. Motors, drives, shafting, and pulleys should be standardized, and driving pulleys should be as large as the driven machine pulleys, or preferably one inch larger in diameter.

For many years chain drives have given satisfactory service in driving seamless knitting machine line shafts. V-belt drives are gaining ground every day because they do not require leak-proof housings, do not have to be made to order, can be installed and aligned without difficulty, produce less noise and vibration, and require very little attention. V-belt drives were considered a radical departure from the accepted ways of power transmission some years ago. Today they are successfully solving many power transmission bottle necks in many and varied lines of industry.

By trying out new ideas we get facts. We learn one way or another; when we stop trying, we stop learning.

From a purely mechanical viewpoint, looping machines have undergone less changes than any other piece of machinery necessary to produce seamless hosiery. The looping operation is done exactly as it has been since these machines were first invented. However, changes in design of various parts and the addition of various attachments such as trimmers, chain clippers, stop motions, etc., give the operator more time to loop, which means greater production per machine. Redesigning of the driving mechanism, bearings, clutches, etc., permits present day machines to run successfully at higher speeds without causing the trouble that was experienced on old models. So with few exceptions most mills have modern up-to-date looping machines.

There are other factors besides looping machines which will help to keep a looping department modern. Once more we find it necessary to stress good heating facilities, the very best in lighting equipment, and repainting of walls and ceilings. This department should by all means be located in that part of the building where the proper type and amount of daylight can be utilized. Non-glare window glass will solve morning or afternoon sun problems.

Looping machines will run well in normal temperature, but operators cannot produce in a stuffy or excessively hot room. Fans in warm weather and proper ventilation during winter months will help keep operators in the mood to produce. Adjustable chairs with posture back rests and air foam cushions will help relieve both mental and physical strain, imaginary or otherwise.

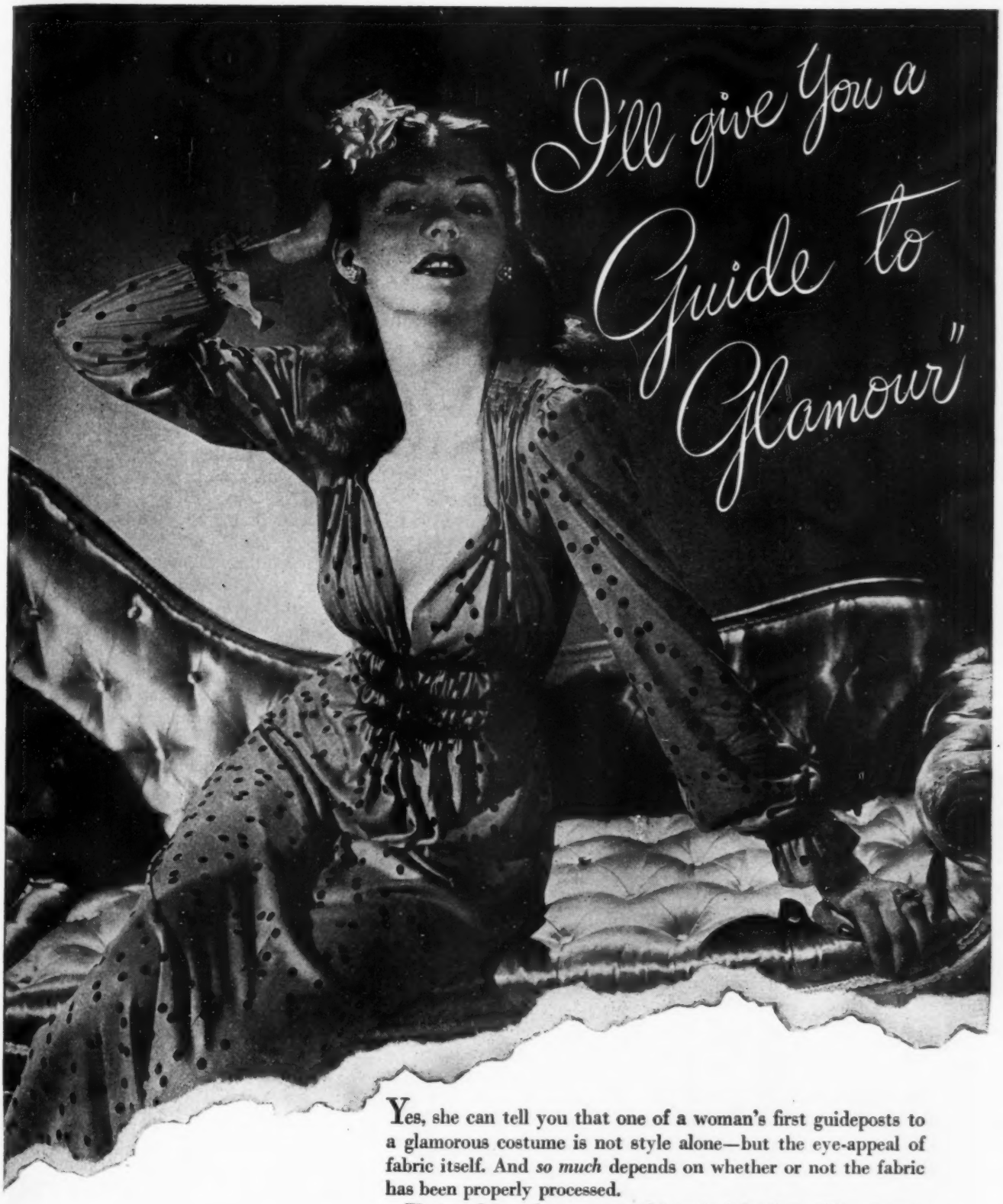
Modern steel looper tables equipped with good shafting, hangars, motors and pulleys eliminate hindering vibrations so common on old style tables.

One thing some looping department heads overlook is proper distribution of goods among respective operators, and to simply say that this is an important factor is putting it mildly. To prove the importance of the foregoing statement, let us assume that the mill is making all 70-gauge goods from sizes six to ten inclusive. At least three diameters of knitting machines would be necessary with more needles in each group of sizes. All looping machines, in this case, would be 28-point so that any operator could loop any size, and toes would all be alike in construction.

The best way to distribute the work to the loopers would be to give certain loopers all the work produced by one or two knitters, rather than give every looper a few dozen of every knitter's production. Why? Simply because some loopers might prefer the smaller diameter goods, others the larger, and a difference in rates based on the respective number of stitches would take care of earning possibilities. Machine fixers will vary in making adjustments for the size of the loose course and the degree of loose or tight knitting of the looper margin or finger hold. Loopers will also vary in their tastes as to the kind of knitting they prefer.

One machine fixer could easily satisfy a given number of loopers once he knew the same operator would get the work from his knitters. The loopers also will do better when this plan is followed. The work they get would be uniformly knit.

Give every looper three diameters of work from three or four different knitters and fixers and




Yes, she can tell you that one of a woman's first guideposts to a glamorous costume is not style alone—but the eye-appeal of fabric itself. And *so much* depends on whether or not the fabric has been properly processed.

That explains why so many of America's leading mills, converters, finishers and dyers have turned to Colgate-Palmolive-Peet for high-quality wetting, fulling, scouring and dispersing agents.

Remember, there is a C.P.P. soap or synthetic detergent for every type of fabric—for every processing problem. Ask your local Colgate-Palmolive-Peet representative for details. Or, write to Industrial Department, Colgate-Palmolive-Peet Company.

**Colgate-Palmolive-Peet Co.** Jersey City 2, N. J. • Atlanta 3, Ga. • Chicago 11, Ill. • Kansas City 3, Kans. • Berkeley 2, Calif.

you hear no end of complaints.

Today we overheard two loopers, sitting side by side, gabbing while they worked. One said, "I don't see why that fixer doesn't do something about Knitter No. 2. Her work is awful." Her neighbor said, "Gosh, I wish they would give me all of her work. I like it."

Who was right or wrong, and what should the fixer do? Proper distribution is your answer. It costs nothing and pays dividends. It's the modern way; extensive and unbiased tests have proved that it works.

### Grey Inspection and Mending

The quality of any mill's production must begin in the knitting departments. Once the goods are knit and looped, they must be finished and sold. Finishing really begins at the inspector's table, for here imperfections are thrown out and sent back to the knitters for their inspection. This is what keeps the knitting departments on their toes. Even a hard headed knitter will get on the beam when a good inspector keeps sending back minor imperfections, and a careless fixer will do a better maintenance job once he knows that only perfect work will get by the inspector.

The necessary equipment for this department is modest indeed; good lighting (as much daylight as possible), good inspection tables, comfortable chairs, and inspection boards designed to suit the type of goods being produced—and last but not least—well-trained inspectors who know hosiery construction and can find imperfections.

Modern equipment will help the inspector to get better results, and a modern system for the distribution of goods will keep them moving. This is nothing more or less than streamlined production. Give an inspector the same kind and type of goods day after day and you will get a better job done faster than by making an inspector constantly change back and forth from one style to another.

Force of habit governs the inspector's movement and action. Time and motion studies prove that a change of goods also changes the inspector's pace.

There was a time when mending meant sewing up holes, but today mending has become an art. Runs can be latched with modern equipment, and many minor imperfections can be mended and passed for perfect work. New types of mending or latching needles, especially designed for different types of goods, are on the market now; they help solve mending problems. With labor and materials at an all time high, good mending will pay dividends.

### The Dyehouse

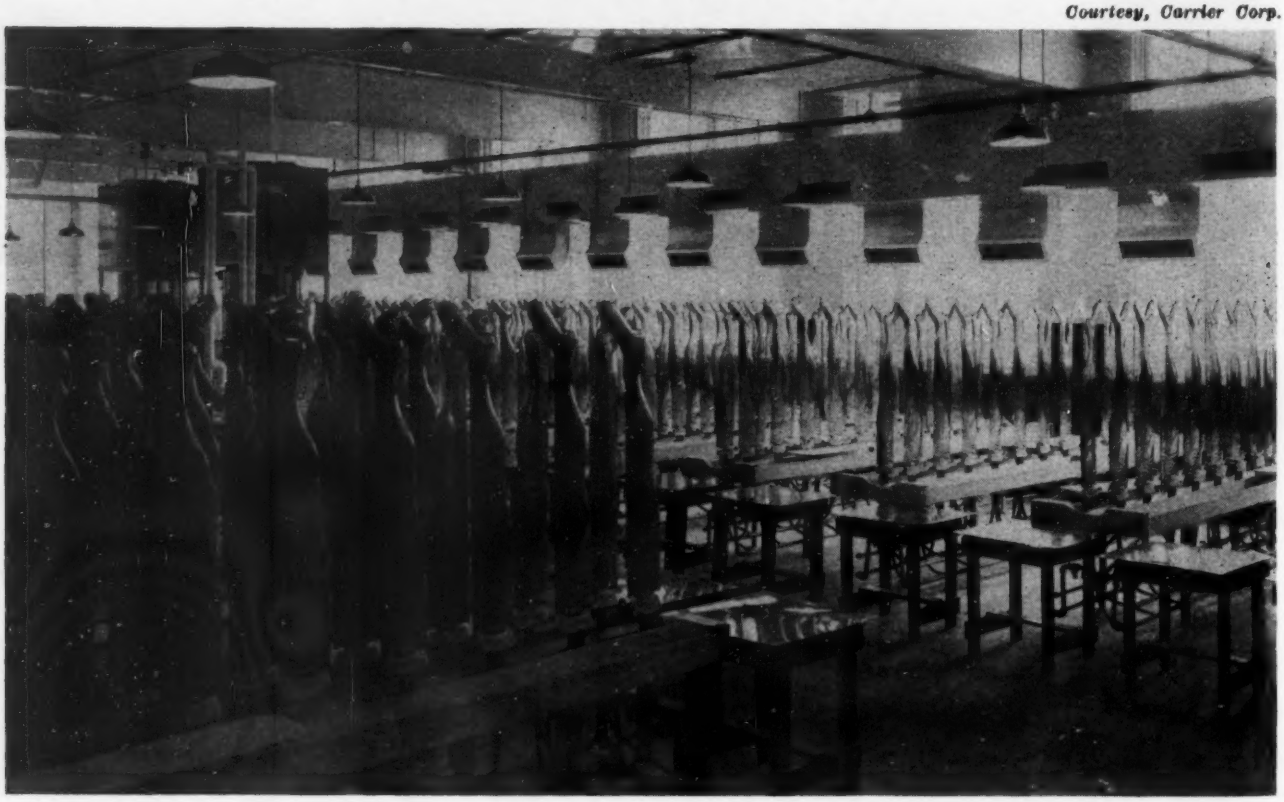
The art of hosiery dyeing has undergone many changes during the past few years, and at this writing many dyers are having their annual headaches developing new shades requested by the sales department. New types of dyes, chemicals, and oils are constantly being introduced. Add to this the numerous new yarns and it means a nice kettle of fish for the dyer to worry with.

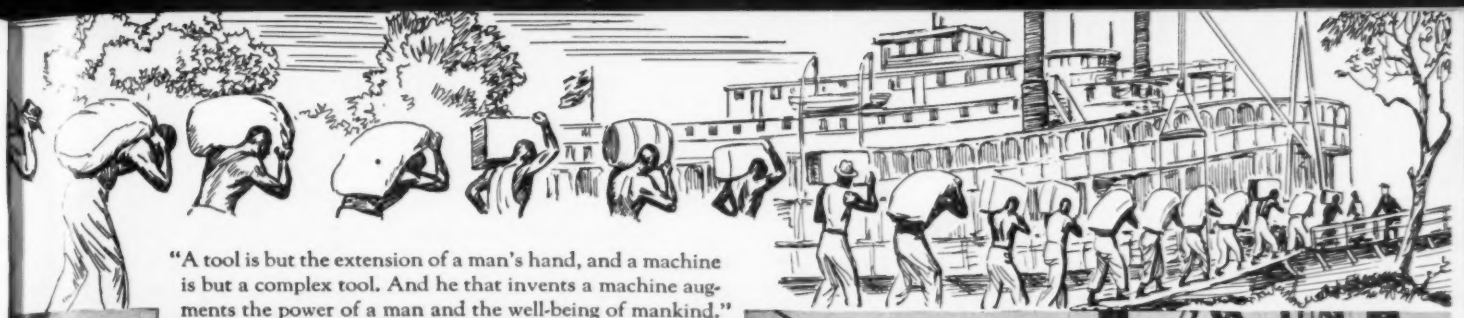
Dyehouse machinery has also been improved. Many mills use both paddle and rotary machines, depending, of course, on the type of goods to be dyed. To these machines we add extractors, pipe lines, valves, etc., and we have the necessary mechanical equipment required by the average dyehouse; all must be mentioned.

From personal observation, we

**View of boarding room in a large full-fashioned mill. Note installation of air conditioning equipment.**

*Courtesy, Carrier Corp.*





"A tool is but the extension of a man's hand, and a machine is but a complex tool. And he that invents a machine augments the power of a man and the well-being of mankind."

Modern machines have made Americans the world's most efficient workers, and with every increase in efficiency, the worker has increased his share of the good things of life and the time in which to enjoy them. In Full-Fashioned Knitting, the READING Machine is the machine that insures the high standard of living of the thousands of skilled workers in the industry.

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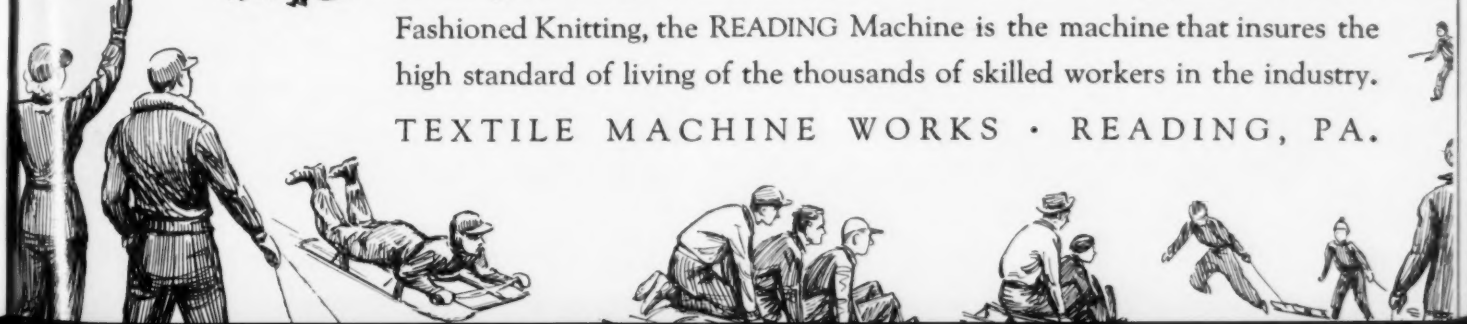

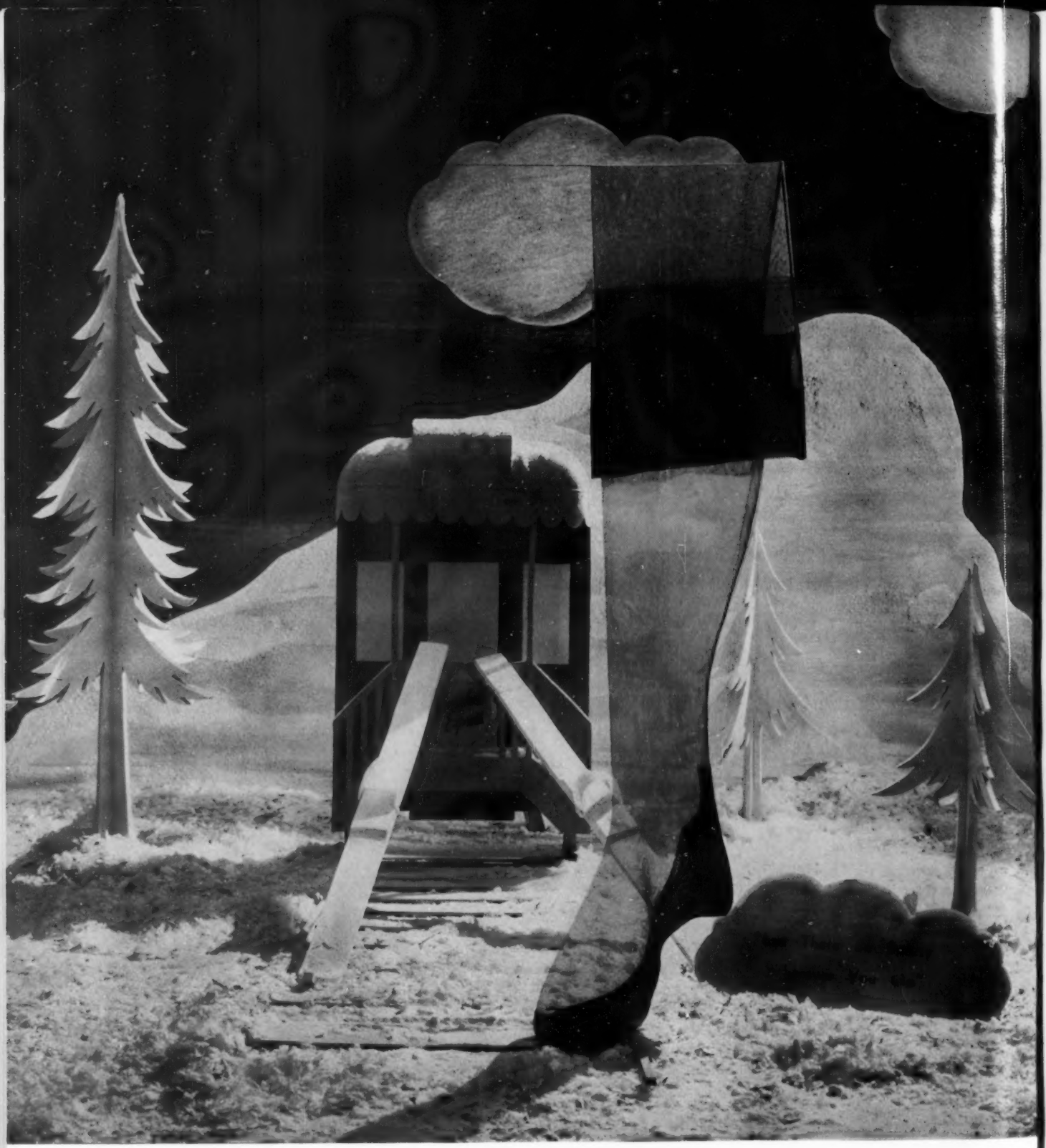

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TEXTILE MACHINE WORKS • READING, PA.

feel most dyehouses fall short on maintenance—not on modernization. Dyehouse machinery and equipment, due to chemical reaction, rust, and corrosion, is at best subjected to hard usage, and lack of much needed attention to minor things (maintenance) changes hard usage into abuse.

A leaking valve on a steam line is simply a piece of pipe with a hole in it. Perhaps the mill bought the best valve obtainable (it pays to buy such valves) and all it needs is a re-seating job done by someone who knows how—not tomorrow or next week, but now, immediately, when it starts to leak and before it gets worse.

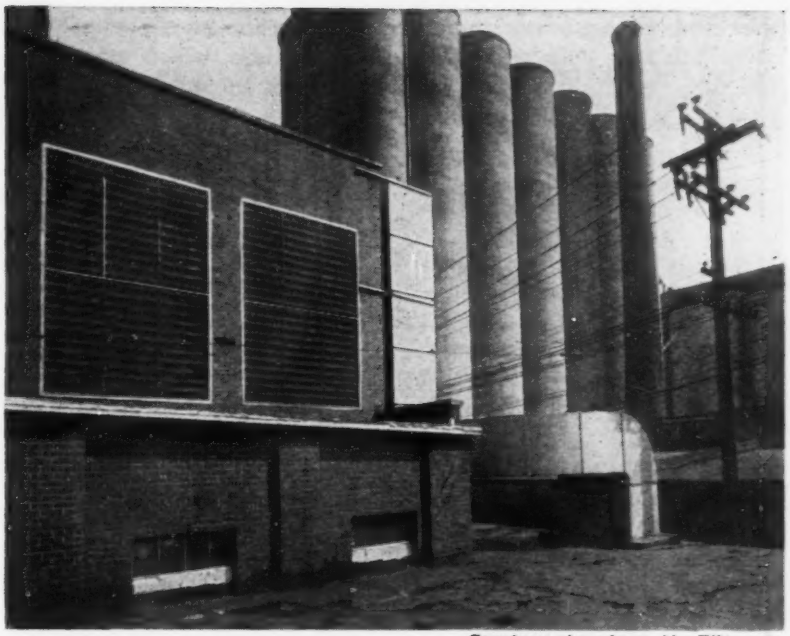
The best time to take down dyehouse motors, clean thoroughly, check insulation, repack bearings, or change oil is before they run hot and burn out bearings and insulation.

Don't wait for the legs and frames of paddle machines to be eaten up by rust before you start scraping and repainting. It's an expensive job involving much labor (the groan and grunt kind) when it becomes necessary to dismantle a large extractor because a bottom bearing has been burned out for lack of oil or grease at regular intervals.

Leaky unions, leaky valves, cracked nipples, and pipes with open seams are not uncommon in some dyehouses. These are minor problems, to be sure, but proper maintenance will eliminate them. The lack of maintenance often means the difference between a modern or dilapidated dyehouse.

Some dyers are mechanically inclined and see to it that the maintenance crew stays on the beam. Others simply tend to their dyeing and let their equipment die for lack of attention. The dyer who takes pride in keeping his equipment in good shape will say "right you are" when he reads this; the fellow who doesn't give a hoot will no doubt say "nuts to you, wise guy."

To the maintenance crew, we say: "Remember that your mill manager or superintendent is a busy man, and he depends upon you to keep the dyehouse in shape so that goods can be put through and delivery dates can be met according to schedule."



*Courtesy, American Air Filter Co.*

**Electronic air filters are used at the hosiery mill pictured on the left to clean the air of chaff and extremely fine particles exhausted into the air by the flour mill shown at the right. The atmosphere is contaminated for several blocks around the flour mill. This could be a serious menace to the hosiery mill.**

The boiler room is one place where modernization has really been carried out to the fullest in some mills, resulting in more steam per ton of coal, and with reduced labor and maintenance costs. Someone may ask how this can be done. Bear with us while we describe briefly what one mill did. This mill had two 150 hp boilers equipped with worm type motor driven stokers, which had seen better days. Something had to be done, and it was time to revamp the boiler room.

The first step and a wise one was to call in a combustion engineer and turn this problem over to him for a complete survey. In due time he produced a layout which he said would do the job; he was told to proceed. Today these same boilers are backing up this engineer's claims in every detail.

The new boiler room looks and is modern. Coal is brought in from the outside coal shed by a worm drive and is blown into the furnaces through a pipe line by a motor-driven fan. A pipe line from the combustion chamber supplies heat to the fan to dry damp coal. Another fan supplies forced draft; a damper in the stock is automatically controlled to open or close when forced draft is on or off.

Electrically driven pumps keep the boilers supplied with water, and an automatic water level control device keeps water levels at the point where the boilers will produce a maximum amount of steam from the fuel being consumed. A hot water return system automatically returns all hot water from every pipe line, thus making use of many gallons of preheated water.

The coal feeding and forced draft fans stop automatically when steam pressure reaches a pre-determined point and start immediately when steam pressure drops to a given point. An electrically controlled alarm sounds immediately if for any reason fuel delivery should stop or proper water levels are not maintained.

A thorough analysis of boiler feed water was made by a reliable chemical company, resulting in made-to-order feed water treatment being supplied, together with complete instructions on how it should be used to keep boilers and flues free from scale.

Over in one corner stood a wheel barrow, a clinker hook, a long handled poker, and a well worn shovel. When we asked the fireman about these implements, he smiled

and said, "I don't use them any more, but they help me remember the days when firing was a job. Now it's a position."

### The Boarding Department

Has anyone seen a hosiery press lately, or perhaps a hosiery dry box with a table piled high with wooden hosiery forms nearby? These two types of hosiery drying equipment were considered modern some years ago. Today's modern mills rely on aluminum or steel steam heated hosiery drying forms or automatic boarding and drying machines, the latter being designed for men's or women's hose. A good boarding department should by all means have good ventilation facilities, a high ceiling or saw tooth roof, and ample number of windows. Hosiery boarders cannot produce in a stuffy room where excessive humidity is depressing and especially when temperatures are high.

Hosiery boarding between rows of steam heated forms calls for much foot work; operator does not walk but shuffles up one row and down the other. If the floor is concrete, a catwalk made of lumber light enough to give some flexibility will be valuable, and a rubber mat on wood floors will be a good investment towards keeping boarders on their feet.

Maintenance work in this department should not be overlooked. Leaky valves, bad gaskets, steam line leaks caused by corrosion and rust, and steam traps which fail to function are among the minor things needing attention. Failures and neglect mean production losses. Ample bins to keep incoming goods sorted, good trays, and sufficient table space to handle goods in process will help keep order and speed up the flow of goods. And last, but not least, we recommend showers and a dressing room so the boys will not have to go home in sweat-soaked clothing when the day is done.

### The Finishing Department

The finishing department is where the fruit of the labor of all departments arrives. Hundreds of dozen pairs of hose are neatly stacked on trays to be inspected, paired, stamped, labeled, banded, etc. This is a department of hand operations, which means that employees should among other things possess dexterity and be able to make the best use of it.

A number of progressive mills are using conveyor tables for finishing operations; goods which have been inspected and paired are brought to the head of the table. One operator feeds goods by laying pairs on a moving conveyor belt. As the pairs move along, they are stamped, labeled, banded, etc., and when they reach the foot of the table they are boxed. Perhaps this idea was borrowed from the automobile industry, the father of streamline assembly.

We are told that these conveyor tables have many advantages, all designed to speed up finishing operations.

Every finishing department needs up-to-date label printing machines, the best stamping irons, banding tools, etc., and much of this equipment has been redesigned to give better service. It's up to every department head to keep his present equipment in good repair; also to keep abreast by finding out what's new. Don't wait for management to call your attention to an advertisement of modern equipment in the textile publications; someone makes or has what you need to modernize your department; management may be waiting for you to make the first move. You may not get all you ask for, but mere asking proves that you are progressive.

Frequently, modern ideas come from the employees or department heads, but they are merely suggestions to begin with; research, development, and testing does the rest.

Plastics and glass are playing important roles in industry today. Snag-proof inspection tables are necessary on much of today's hosiery, especially nylon. Why not have inspection tables in the finishing department covered with plastic?

### The Office

Management works in the office. Here plans are made, records are kept, and in short, it is the control tower of the whole plant. It takes modern equipment to get office work done today.

Remember the old office man of yesteryear who was the cock of the roost with his green visor, high stool, a pencil behind his ear, sleeve protectors, and celluloid collar? If he could be brought back from over the hill and be permitted to visit a modern office, what would his reaction be to electric typewriters, teletype machines, adding and calculating machines, dictaphones, bookkeeping machines, modern filing cabinets, desks and chairs, inter-department communication system, and self-regulating time indicating systems operated by a master time control?

Just one look at the mentioned equipment being used by a staff of modern office personnel, neatly clad, permanent waved, manicured, and made up would convince the old boy that things have really changed while he was gone.

Mechanical devices of every description have contributed much toward speeding up bookkeeping, accounting, pay roll work, correspondence, tabulating, and recording. Today's office must supply facts and figures quickly and accurately to keep in step with modern production methods and practices. One man may still be office manager, but what a job he has compared to the office man of yesteryear.

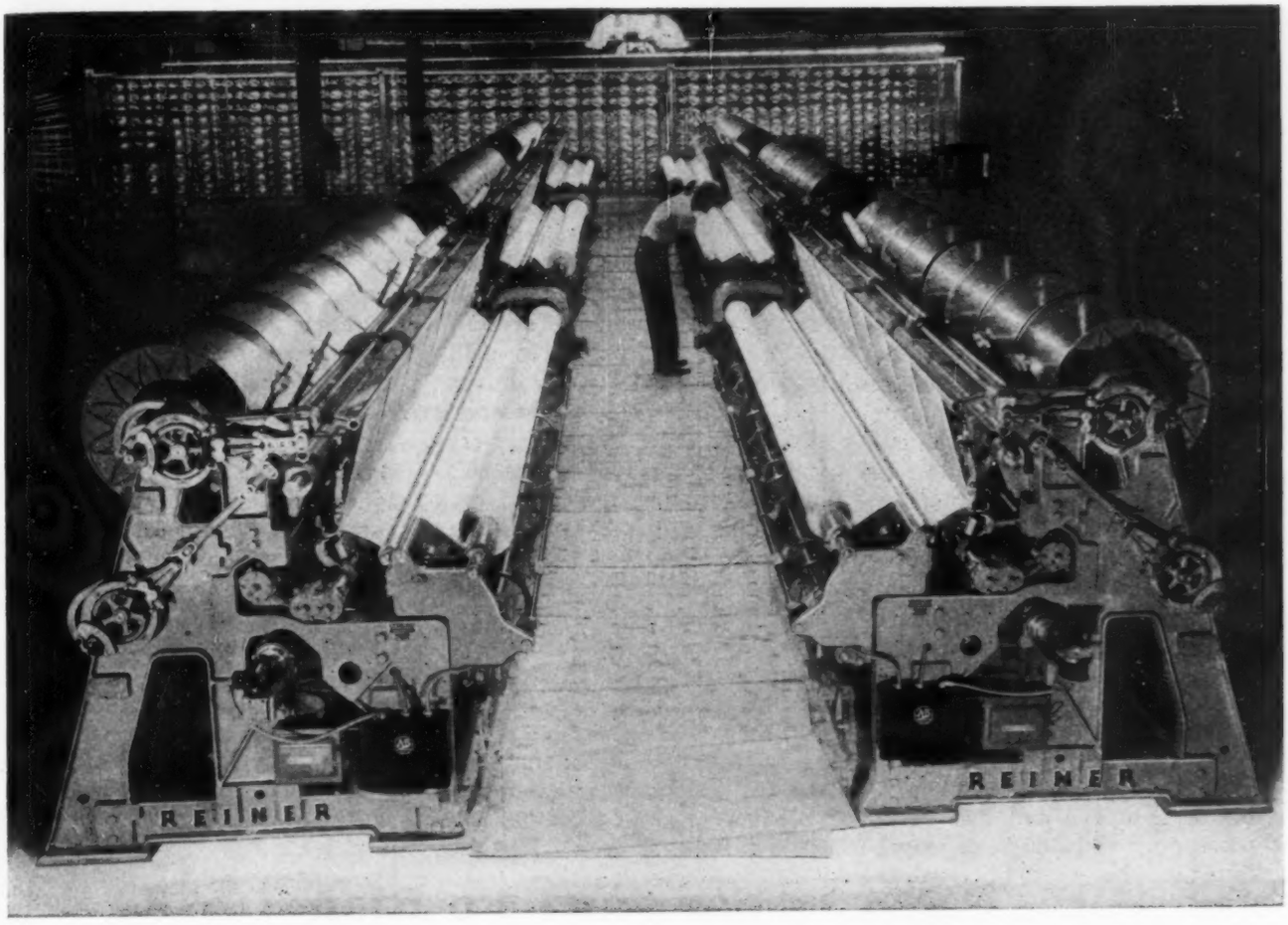
We stated in the beginning of this article that modernization and maintenance are, at present, important and difficult, but we did not say impossible. Somewhere from the main office down to the shipping room platform, the addition of modern equipment, and/or better maintenance of present equipment, will help towards making a better product more economically. Buying new equipment costs money. Failing to do so may cost more.

---

The newly organized Memphis (Tenn.) Knitting Mills, Inc., the first to be located in this vicinity, have begun operations. The firm was incorporated with Rafael David, Guatemala, Central America, as president.

Pilot Hosiery Mills of Valdese, N. C., have purchased about five acres from Bernhardt Furniture Co., Lenoir, N. C., and will erect a full-fashioned hosiery plant.

# IT PAYS TO USE REINER MACHINES




*Installation of Reiner high speed Tricot Machine (RT-1) and Magazine Creel at Ko-Nit Mills, Englewood, N. J.*

**Fabric Quality • Speed • Steady, even flow of production • Ease of operation • Economical maintenance • An almost unlimited pattern range—truly, these are elements of profitable production found in every Reiner unit and proved by actual production performance in knitting mills everywhere.**

**The new Reiner High Speed Tricot Machine has a cruising speed in excess of 450 courses per minute, with a knitting width of 168 inches (or 84 inches with still higher speeds). It takes 21 inch spools or any spools of the conventional size. It can be operated with either a pattern wheel or a chain link drive, the change-over being merely a matter of minutes. This gives the knitter a still wider selective pattern range of one bar or two bar tricot fabrics of rayon, nylon, silk, cotton, wool, etc., single-fibre or blended yarns.**

**Reiner also offers a full line of preparatory equipment such as creels and warpers for all requirements, warping spools, hydraulic beam lift wagons, stop motion equipment, and other auxiliary items, thus giving the knitter a continuous line from start to finish, all available from one source.**

## IT PAYS TO USE REINER MACHINES

"The proof of the pudding is in the eating". Ask any one of the leading knitting mills now using Reiner equipment. Richly illustrated catalogs are available upon request.

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# Knitting Mills Welcome Buyers' Plans

Producers of knitted items are revealed as anxious to have their accounts outline in advance, whenever possible, their programs for spring and second quarter. Experiences since the "turn of the year" have indicated that the rank and file of wholesale and retail outlets probably have covered about one-third of their spring requirements in orders already received by the manufacturers. It is agreed among the latter that, when compared with the accumulation of forward orders a year ago or at any time during the first half of 1946, this represents a conservative attitude among the customers, and may even reflect retailers' fears of an impending buyers' strike.

The producers of knitwear, especially those who are prepared for maximum output of standard-quality goods, say they welcome the return of sound and conservative production - sales - delivery conditions in this industry. They point out that unless the large majority of wholesale and retail outlets adopt a uniform policy, the supply situation soon may be found to be as tight regarding much of the wanted merchandise for spring as it was a year ago. Allocations of desirable goods, it is predicted, will be on an allotment basis that eventually will be found to have changed very little from 1946.

Currently there are reports of some fall goods being held over, either because of retailers' cancellations or by reason of manufacturers failing to meet delivery specifications; but it is claimed that orderly liquidation of this merchandise can be achieved without harming the over-all market position for spring. Some manufacturers plan to carry over such goods until next fall, on the theory that worthwhile merchandise of this kind will at least be worth as much then as it would be at forced disposal now.

Some of the leading knitwear sources express themselves as favoring conservative wholesale and retail commitments now. It is pointed out that if retailers, for example, mean to buy less than their full seasonal needs, it will be a welcome change from the duplicate orders placed in 1946. That is, the manufacturers can expect from now on that an order can be regarded as meaning what it says. In addition, by underbuying their spring and summer needs at present, wholesale and retail outlets afford themselves an open-to-buy position as the seasons progress, instead of overbuying (at least on paper) by deliberate duplication of their orders.

It is cited by some observers that not only does this mark a radical change for 1947 in the complexion of the markets, but it should serve in the future as a safeguard against a following wave of retailer cancellations such as those that were reported during December. It is noted by manufacturers that, while absence of cold weather during fall and early winter was blamed for many retail cancellations, often the real reason was that the retailers were getting complete deliveries of all their orders placed in duplicate last summer, instead of the partial deliveries they counted on.

Some of the leading knitwear manufacturers have refrained thus far since January 1 from making public their plans of merchandising in 1947. It can be said unofficially that they have been awaiting the new year's development of customers' programs for spring, summer and fall. Some of the larger knitwear producers have had surveys made, while most are relying on distributor reactions to consumer trends. Those relying on the analysis of experts in the merchandising field appear to think that if 1941 unit (not dollar) volume of retail sales can be approximated, the business can be handled profitably.

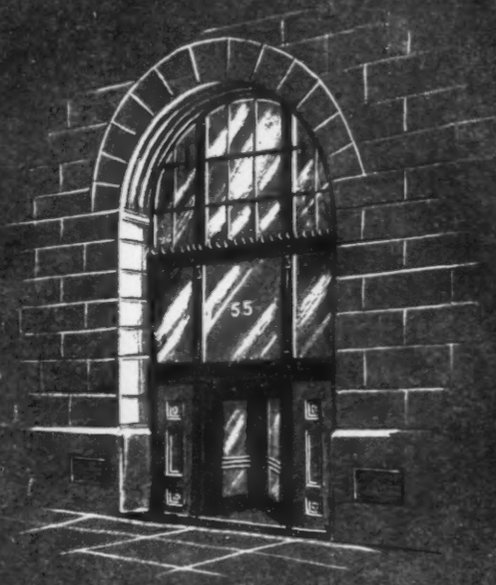
From the retail standpoint, at this writing, it remains that demand by the public for spring merchandise still has to be tested, and very few of the larger stores and wholesalers have been able to solve this problem to their satisfaction, as yet.

# Forward Position Hard to Figure

The pattern of operations so far in 1947 remains confused, from the viewpoint of manufacturers of knitwear as well as their wholesale and retail distributors. It is admitted that this does not justify customers in presently taking a definite position into or beyond the spring season. Until now, many of the final disposers of knitted goods have appeared to take the position that they should delay re-orders of merchandise until the 1947 trend takes more definite shape.

As far as present consumer demand is concerned, it is conceded, standard types of merchandise and preferred-quality items are in active request without too much stress on prices, and the immediate supply is below the demand. At the same time it is readily stated that during the last few weeks of 1946, many consumers became disgusted by high prices for "ersatz" merchandise. It is assumed that this attitude may soon give way to a real consumer search for worthwhile supplies of wanted items that were not easily to be had during the pre-holiday selling period, when many of the retail stores naturally stressed gift goods and, at the same time, tried to clear unwanted wartime types of seasonal merchandise.

Since the beginning of the new year, it is reported that merchandising retail executives have taken varied attitudes as to placing forward orders. While some restricted their buying to 30-day replacements, others went into 60-

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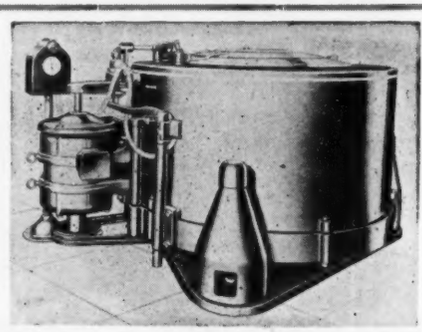
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day deliveries, but only a few have yet gone into the second quarter. Wholesalers seem to have had the most objections as to current pricing of knitted goods. This is said to be especially applicable to combed yarn fabrics, to which the prices now quoted are claimed to apply to only a small segment of the trade. Shortage of suitable yarn is mostly blamed for this condition and spinners assert this condition will not soon be remedied.

## Nylons Export May Cramp U. S.

Hosiery industry authorities say that with export controls removed (such as license requirements for nylons) they are prepared to see foreign buying stepped-up considerably. It is cited that during 1946, to November 1, Government figures show total exports of nearly 500,000 dozen pairs of nylon stockings. Therefore, the export business is regarded as already important and imports will have a rapid growth when buying and selling can be freely conducted.

Buyers for export of this item undoubtedly will be more active in 1947, and prices offered for exportable merchandise are thought likely to advance more than may be feasible for domestic business, due to the relationship of demand and supply at any given time. To some observers, total figures on export of nylons so far appear to be nominal, against the background of over-all U. S. production during 1946.

Others cite that, except for the fact that demand in this country for nylons far exceeds the available supply at present, the export business might get very little attention right now. Ten months of nylon exports are only 2 per cent of the total output shipped during that period. The important thing however, it is asserted, is that with the restriction lifted export demand has already increased remarkably, and in the present state of the markets this could easily raise prices to a higher range than lately reported, with $24 per dozen pairs being commonly mentioned.

Thus far, it is conceded, the exported total of nylons has left the domestic distributors little worse off, but before long this diversion of supply to foreign consumers may attract a lot more attention in the markets here. In some part, this would be accounted for by the continued demand for nylon stockings throughout this country and the poor chances for production being notably enlarged in the near future.

### Knitwear Thought Fair Credit Risk

Viewing the knitwear industry as a whole, in all its branches, credit authorities are reported to believe the over-all balance sheet during 1947 will show assets far exceeding liabilities, though at times it may be found in some cases that liabilities will be pressing while assets will be slow to mature. In some quarters, it is explained, the difficulties caused by some consumer resistance to ill-assorted, poor quality merchandise, are viewed at first as being a liability; but others con-

## AN EYE ON THE KNITTING MILLS

Zachary Pitts, Caliente Cottages, Palm Springs, Calif., plans to build a one-story knitting mill on a local site there and has received CPA approval.

A new mill, Altamahaw Hosiery Mills, Inc., has been organized, with a capital of $500,000, in Altamahaw, N. C.

Chartered with a capital of $300,000, Knit Sox Hosiery Mills, Inc., will establish a mill in Hickory, N. C.

Melrose Hosiery Mills, High Point, N. C., full-fashioned hosiery, are including in their $435,000 expansion program a two-story addition, and have secured a permit.

The recently organized concern, Memphis Knitting Mills, plan to operate a mill, for the manufacture of undershirts for men, in a leased building in Memphis, Tenn. They plan to produce over 125 dozen pairs per day. The company also plans to erect a mill there at a later date, which will include a bleaching plant.

Nine acres of land and a number of buildings in Vancouver, Wash., a part of the Government's Columbia housing project, will be improved and converted for a branch mill for Jantzen Knitting Mills, Portland, Ore.

Sigmon Terry Hosiery Mill, Hickory, N. C., has awarded contract for a one-story addition, to be equipped for the manufacture of men's cotton anklets.

Melrose Hosiery Mills, High Point, N. C., have under way a building expansion program that will modernize their three plants there. It is estimated that the work force will be increased by approximately 350.

Pons Full Fashion Mills, Inc., Valdese, N. C., have received a charter to buy and sell hosiery, with an authorized capital stock of $100,000.

Chartered for production of hosiery, the Academy Hosiery Co., Charlotte, N. C., will operate with a capital of $50,000.

Organized with a capital stock of 500 shares, no par, the Marine Hosiery Mills, Inc., Soddy, Tenn., will manufacture and distribute hosiery and textile products.

Wrenn-Cutting Co., Thomasville, N. C., has been incorporated to engage in the hosiery business, with a capital of $100,000.

A new concern in Reading, Pa., the Fine Knit Hosiery Mills, Inc., have applied to the state for a charter to engage in the manufacture and sale of hosiery.

Knitters, Inc., Valdese, N. C., has been formed, capitalized at $50,000, to deal in hosiery.

tend that, in reality, consumer selectivity is one of the best assets of all, because it forces production and sales onto a competitive basis all the sooner, and this is a situation that the industry would have to face in any event.

Among the other assets cited are: Highest productive capacity in the nation's history—far higher than anywhere else in the world; continued willingness to grant credit; outlook for better Government policies; a high degree of prosperity in agriculture; and the liberal attitude of the average worker who wants to get more but always spends what he gets.

The liabilities obviously include: Economic and political dislocations in many parts of the world; low productivity abroad; the "something-for-nothing" technique in some countries, among populations that clamor for security but won't work to get it; a lowered standard of international integrity and ethics; and the fact that business failures probably will be more numerous during 1947, together with a moderate rise in credit losses.

Back of the expectation of credit leaders for a fair showing this year is the hope that striving for "easy money" will give place to a new growth of individual thrift, as a by-product of consumer selectivity and returning competition for jobs and sales.

### "Mixed" Stocks Being Cleared

Additional inventory accumulation among distributors of knitwear items is not expected to occur over the next several months, according to industry observers. Part of the dealers' inventory carried over into 1947 consisted of below-standard goods, which were welcomed a few months ago, but were disdained by many consumers during the pre-holiday selling period. In addition, it is explained, many retailers have become conservative as to the economic outlook in the localities where they do all or most of their selling. Others, including wholesalers, count on supply overtaking actual demand for merchandise comparatively soon, which would lead to price reductions, unless the public spends more freely for this type of merchandise than many now expect.

Knitwear manufacturers last fall made a study of inventory purchases, but so many of the retailers' and wholesalers' orders were overlapping, that it was difficult to forecast a trend at that time. Distributors' experiences in December helped to clear up this situation. Cancellations from retailers, for example, appeared to show they already had all the goods they figured they would need for a time. Returns of merchandise that obviously was far below ordinary standards also aided manufacturers in their appraisal of the future.

The point is urged that while such a development was to be expected in certain knitwear lines, it will be better for all concerned if dealers' go slow in reducing their on-hand supplies this winter. The aim of some retailers is to reject sub-quality goods or close out what they have in stock, and re-stock with items that are up to prewar standards. It is explained that this will not be so easy to do, as some weeks ago the demand for better quality goods was much larger than manufacturers can hope to fill in the near future.

### England Adds Export Items

A considerable group of full-fashioned hosiery mills lately began to take in shipments of English high-count, first-quality cotton yarn, as against a new arrangement that will extend through the present quarter at least. This is occasioned by protracted lack of domestic yarn of like quality, it is explained. The British Approved Yarn Association is furnishing this allotment. It consists of lisle-twist mercerized counts for use in welts.

The range embraces two-ply numbers from 120s to 180s, on cones, spun from Sea Island and Egyptian cotton. Arrivals will consist of lots of 10 pounds each.


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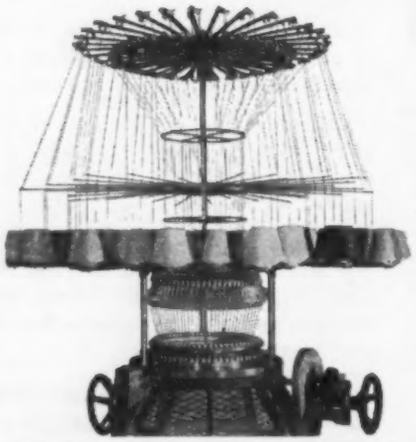

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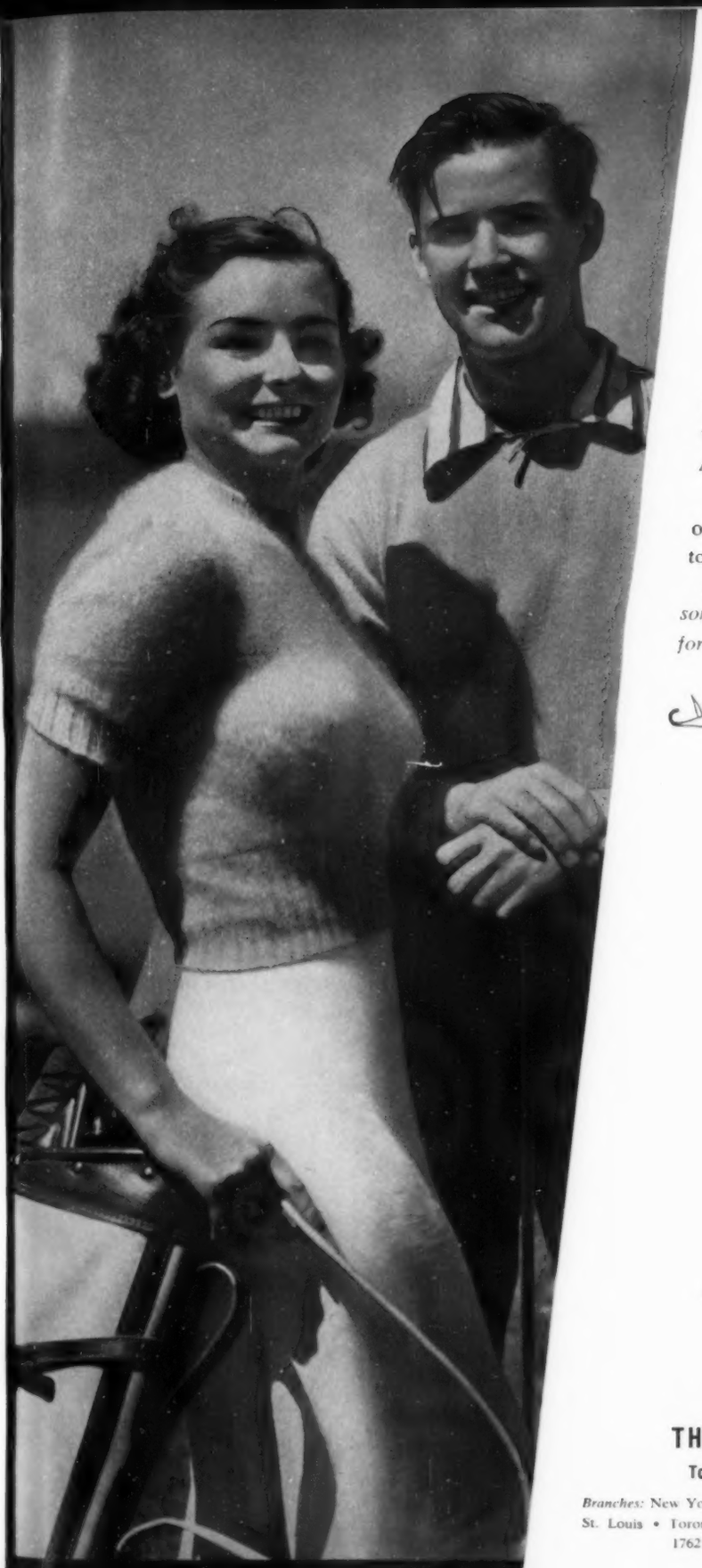

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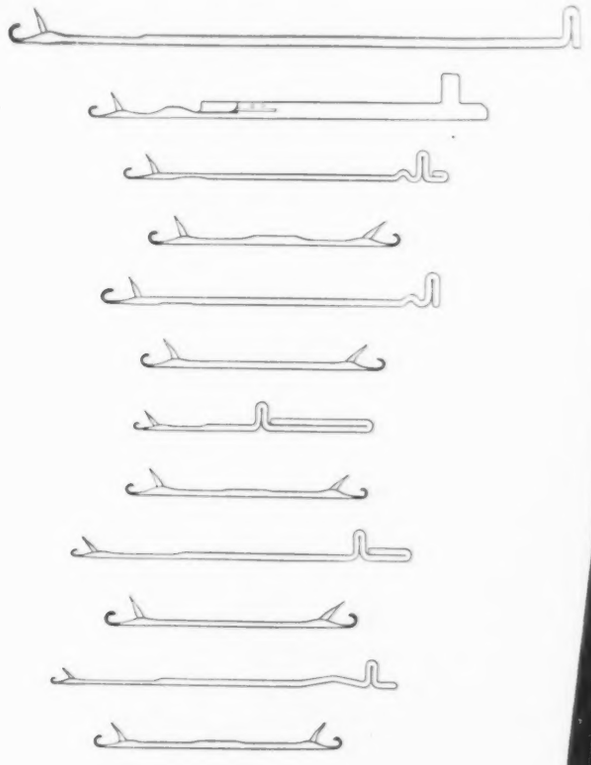

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# Tariff Reduction on Cotton Opposed

The Cotton-Textile Institute, in a brief filed with the United States Tariff Commission, has recommended that no reductions be made in duties on cotton textiles in the forthcoming reciprocal trade agreement negotiations.

The Institute, with the concurrence of the American Cotton Manufacturers, also urged that quotas be placed on all imports of cotton textiles so long as a subsidy is paid on exports of American cotton or as long as the domestic price of American cotton is maintained by the Government price support program at a level above the world price for comparable foreign growths.

Because they can be interchanged with products of American grown cotton, the brief recommended that no reductions be made on duties on flax, hemp, jute and their manufactures, and imported rayons. In case reductions are made on these, the Institute stated that quotas should be placed on imports as long as the cotton subsidy and support programs are continued.

In previous trade agreements with the United Kingdom, France, Switzerland, the Netherlands, and Czechoslovakia, duties were reduced an average of 29 per cent on 27 cotton products. The outbreak of war in Europe made it impossible to measure the full effects of these reductions which have yet to be felt, for European industries have not yet completed the task of rebuilding output to prewar levels, the brief explained.

Since these concessions were made, cotton industry costs have risen precipitately, average hourly earnings in cotton mills ascending from 38.9 cents to 88.8 cents, an increase of 120 per cent. Wages are the largest item in the processing of cotton, representing in excess of 60 per cent of the value added by manufacture. This compares with 39.3 per cent in all manufacturing industries.

This swift rise in wage rates, the brief pointed out, was not accompanied by gains in labor productivity. On the contrary, despite large military orders and the standardization of constructions imposed by the War Production Board, both of which assured longer runs than usual in peacetime operations, output per man-hour increased less than one per cent over the last six years. At the end of 1945, unit labor costs were 74.4 per cent higher than in 1939.

The brief brought out many other salient factors.


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# TRENDS—Yarn Markets

PRODUCTION of all types of knitting yarn increased during the fourth 1946 quarter, as compared with earlier periods during the year, but in many essential respects available supply of preferred kinds and numbers still remains short of actual demand. This is partly due to customers' changes in their requirements, aiming toward better quality merchandise, and to some extent it can be attributed to spinners' changeovers from Government control.

It is expected that for most of the usual types of knitting yarn the available supply will come nearer to actual demand by midwinter. Prices the knitters will obtain for the yarn they seek remains to be seen. As previously reported, integration of yarn facilities during 1946 and earlier diverted market supply, at least temporarily. This especially applies to cotton sale yarns.

### Cotton Yarns

For a time it appears likely that cotton yarn prices for the knitwear trades will be tied in more or less closely to cost of raw cotton for spinners and their labor outlay. Market authorities say it is likely that both of these cotton yarn cost essentials will advance during the early part of 1947. The demand that has been well sustained thus far for most types of cotton knitting yarn, it is cited, has afforded most sellers a better margin than otherwise they could expect to get.

### Synthetic Yarns

As to rayon yarns for the knitting trades, buyers can expect adjustment of existing price distortions in the near future. Once these pricing dislocations have been smoothed out, sellers of rayon yarn count on late 1947 months to witness important increases in yarn supplies. Meanwhile, it is said that consumers of rayon knitting yarns should cover ahead in full for the first 1947 quarter.

That is, according to this version of the outlook, 1947 will see important gains in rayon yarn supply for knitwear and a greater range of numbers, but this is likely to materialize in the second quarter, and will become still more important after July 1, 1947. That is, after April new productive capacity that was planned long ago will come into sight. The supply will later be increased even more, and will presage a much larger volume in 1948.

### Worsted Yarns

Trading in worsted yarns remains more or less confused. Knitters report that instead of spinners "opening up" after January 1, as was expected by some, they still are hesitant about obligating themselves for yarn deliveries extending over the next several months, so that anything like complete coverage after mid-winter has had to be postponed. Currently, sales are being made above former OPA ceiling levels. This is explained as being necessary because of higher wool prices and rising cost of yarn production, including wages. The finer the yarn count, the wider is the price advance. Better quality worsted yarns are in strong demand, but still remain very scarce, even when buyers agree to pay higher prices.

Recently the worsted yarn sources have taken a new angle, claiming that combing space is tighter now than it has been for years, which is being attributed to lack of arrivals of new machinery, ordered long ago and urgently needed, and inability of spinners to reestablish normal discipline among their help. A large producer of knitting yarn reports that, even with the mill supposedly "running full," only about 60 per cent of normal output is obtained because the average worker frequently is absent, and when he is supposedly "on the job," he takes out time to attend meetings at which union grievances are discussed.


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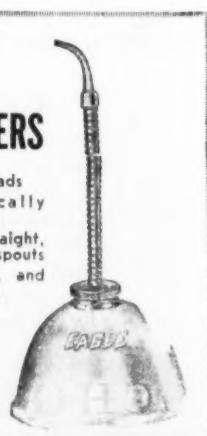


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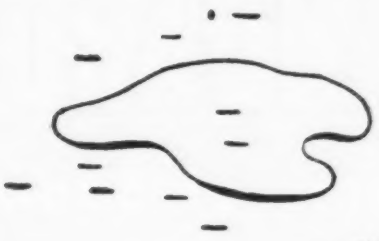

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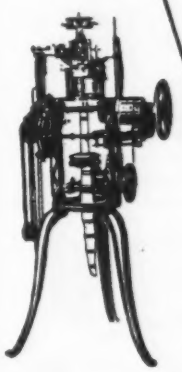

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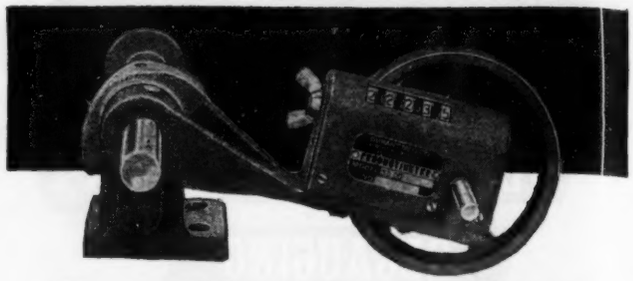

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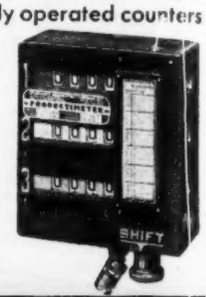


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Right: Model 4-PC-3, new 3-shift Loom Pick Counter.

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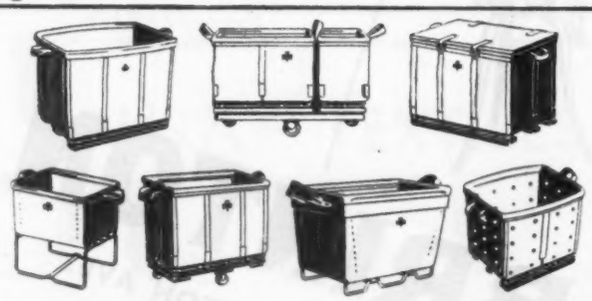

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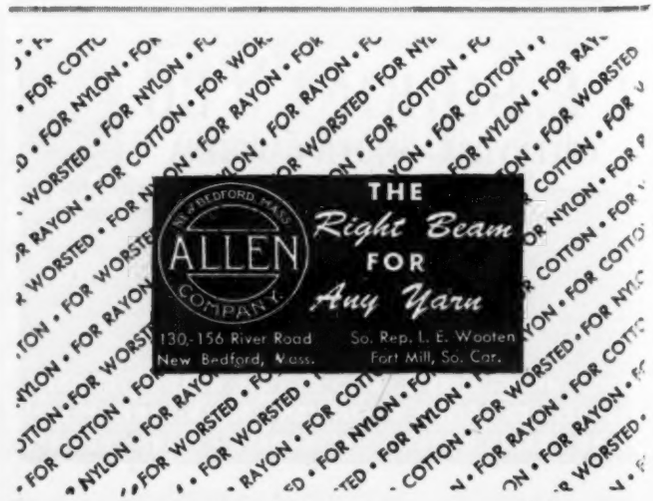

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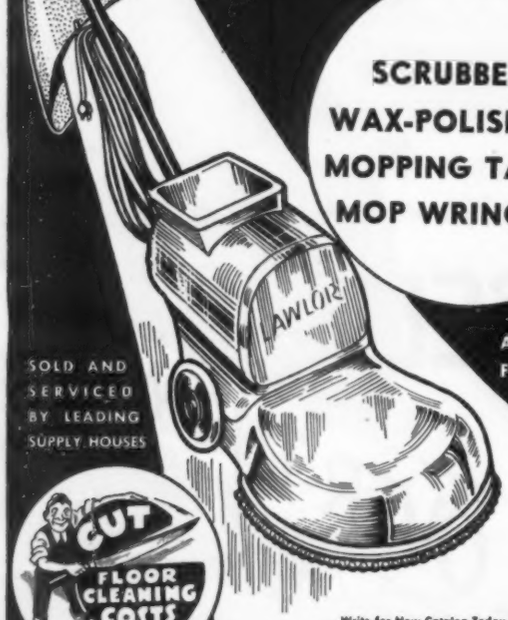

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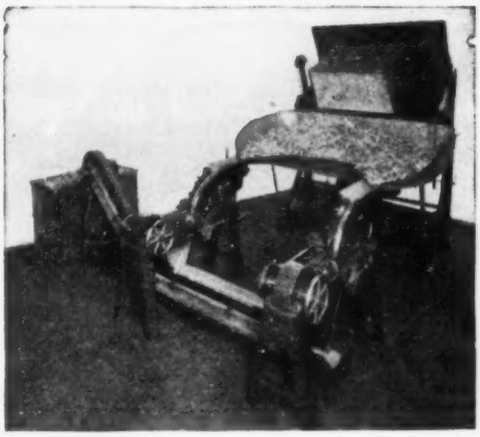

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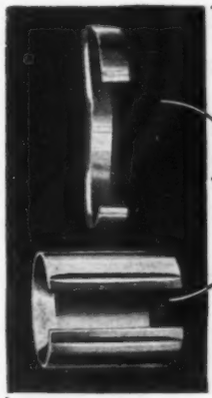

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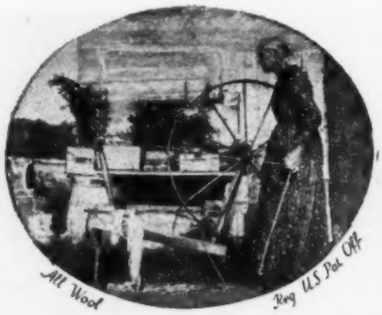


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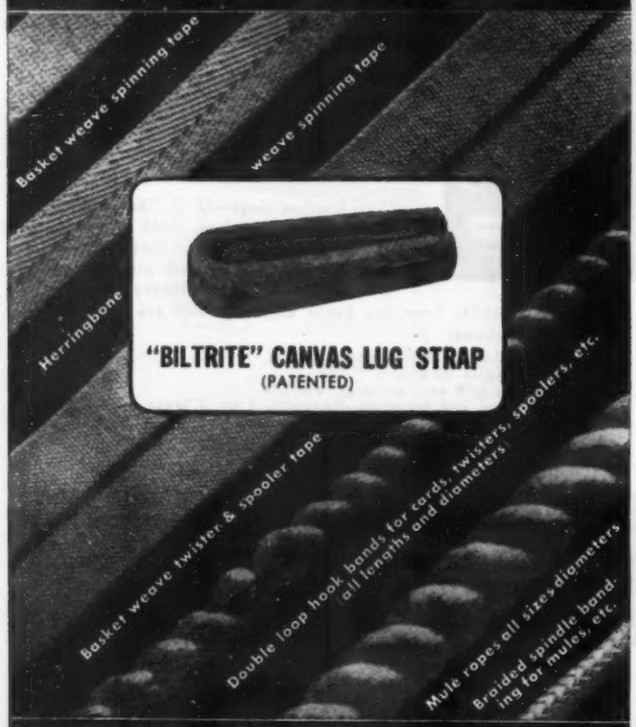
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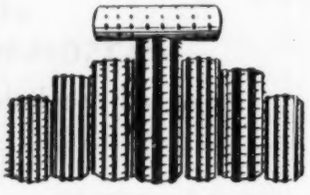

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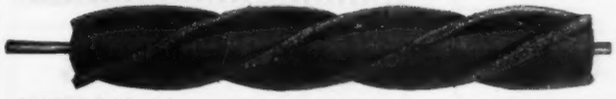

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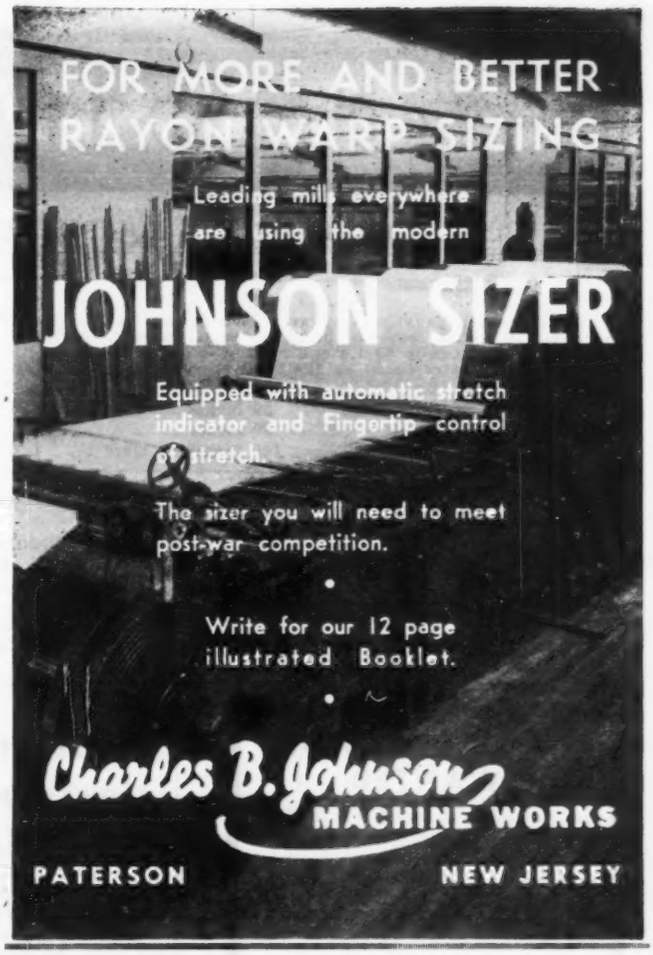

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# Index of ADVERTISERS

*The Advertisers' Index is published as a convenience and not as a part of the advertising contract. Every care will be taken to index correctly. No allowance will be made for errors or failure to insert.*


**A**

Abbott Machine Co. ..... 40
Aberfoyle Mfg. Co. ..... •
Air-Perme-Ator Mfg. Co. ...185
Aldrich Machine Works .....128
Allen Company .....218
Allis-Chalmers Mfg. Co. ....129
Althouse Chemical Co. ..... •
Altman .....226
Aluminum Co. of America... 63
Amalgamated Chemical Corp. •
American Air Filter Co., Inc.130
American Aniline Products, Inc. .....121
American Associated Consultants, Inc. .....181
American Cyanamid Co. .....8, 9 and 114
American Magnesium Corp..148
American Moistening Co....138
American Monorail Co. ..... 99
American Paper Tube Co....230
American Steel & Wire Co.. •
American Viscose Corp. ..... 59
American Yarn & Processing Co. .....229
Arguto Oilless Bearing Co...219
Arkansas Company, Inc. ... 56
Armour & Co. ..... •
Armstrong Cork Co..... 19
Arnold, Hoffman & Co. ..... Inside Front Cover
Ashworth Bros., Inc. .....120
Atlanta Envelope Co. ..... •
Atlas Electric Devices Co...229
Augusta Chemical Co. ..... •
Avondale Mills .....210

**B**

Bahnson Co. ..... 39
Barber-Colman Co. .....176
Barnes Textile Associates, Inc. .....219
Becco Sales Corp. .....145
Best & Co., Edward H. ....222
Birch Brothers, Inc. ..... •
Blickman, Inc., S. .....180
Bond Co., Charles ..... •
Borne, Scrymser Co. .....166
Bouligny, Inc., R. H. ..... 29
Bowen-Hunter Bobbin Co....103
Brinton Co., H. .....217
Bristol Co. .....46 and 47
Brown Instrument Co. ..... 43
Buffalo Forge Co. .....161
Bunting Brass & Bronze Co. 25
Burkart-Schier Chemical Co.228
Butterworth & Sons Co., H. W. .....105

**C**

Calco Chemical Division .....157
Callaway Mills .....227
Cameron Machine Co. .....228
Carbomatic Corporation .... •
Carborundum Co. ..... 57
Carnegie-Illinois Steel Corp. •
Carrier Corp. ..... 50
Carter, Inc., A. B. ..... •
Champion Paper & Fiber Co. 16
Ciba Co., Inc. ..... •
Classified Ads .....226 and 227
Clayton Co., J. M. ..... 42
Cleveland Tramrail Division ..... •
Clinton Industries, Inc. ..... •
Clipper Belt Lacer Co. .....223
Cluett, Peabody & Co., Inc., .....132 and 133
Cocker Machine & Foundry Co. .....187
Cole Mfg. Co., R. D. .....222
Colgate-Palmolive-Peet Co..201
Columbia Chemical Division. 5
Columbia Steel Co. ..... •
Comer Machinery Co. .....156
Commercial Factors Corporation ..... •
Consolidated Products Co., Inc., N. J. .....227
Corn Products Sales Co. ....106
Crane Company ..... 48
Crawford Mfg. Co. .....212
Crompton & Knowles Loom Works .....51
Crouse-Hinds Co. ..... •
Curtis & Marble Machine Co. •

**D**

Danielson Mfg. Co. .....Inside Back Cover
Darnell Corp., Ltd. .....162
Dary Ring Traveler Co. ....225
Dauray Textiles .....216
Dayton Rubber Mfg. Co. ..... 66
Dexter Chemical Corp. .....221
Diagraph-Bradley Stencil Machine Corp. ..... •
Diamond Alkali Co. .....218
Dodenhoff Co., W. D. .....166
Dodge Mfg. Corp. ..... 54
Dommerich & Co., L. F. .... 52
Draper Corporation ..... 1
Drew & Co., E. F. ..... •
Dronsfield Bros., Ltd. ..... •
Du Pont de Nemours & Co., Inc., E. I. (Dyestuff Division) .....193
Du Pont de Nemours & Co., Inc., E. I. (Electrochemicals Dept.) ..... •
DuPont de Nemours & Co., Inc., E. I. (Finishes Division) ..... •
Durant Mfg. Co. .....218

**E**

Eagle Mfg. Co. .....216
Eaton, Paul B. .....227
Economy Baler Co. ..... •
Elastic Stop Nut Corp. ..... 13
Emery Industries, Inc. .....188
Emmons Loom Harness Co. . 4

**F**

Fafnir Bearing Co. ..... •
Felters Company ..... 33
Finnell System, Inc. .....117
Fiske Bros. Refining Co. ... •
Fitzgerald, James E. .....227
Fletcher Works ..... 24
Formica Insulation Co. ..... •
Foster Machine Co. ..... 18
Franklin Process Co. ..... 17

**G**

Gardner-Denver Co. ..... 49
Gastonia Brush Co. .....225
Gastonia Roller Flyer & Spindle Co. ..... •
Gates Rubber Co. ..... 44
Gaylord Container Corp. .... •
General Coal Co. .....150
General Dyestuff Corp. .....139
L. H. Gilmer Co. ..... •
Goodyear Tire & Rubber Co. 7
Greenville Steel & Fdy. Co. 41
Gulf Oil Corporation ..... 23

**H**

H & B American Machine Co. .....64 and 65
Harnischfeger Corp. .....110
Hart Products Corp. .....223
Harvart Plush Co. .....226
Henderson Fdy. & Mch. Co. 126
Hermas Machine Co. .....182
Hetherington & Sons, Inc., John .....225
Hofmann & Co., Inc., Alfred. 217
Holt Hardwood Co. .....160
Hooker Electrochemical Co. . •
Hotels, Dinkler .....220
Houghton & Co., E. F. ..... •
Houston Pipe Line Co. ..... •
Howard Bros. Mfg. Co. ..... 32
Hubbard Spool Co. ..... •
Hyde Park Mills, Inc. .....226

**I**

Ideal Machine Shops .....134
Industrial Chemicals Div. ...114
Interchemical Corp. (Textile Colors Div.) ..... 55
International Nickel Co., Inc. •
International Salt Co., Inc. .116

**J**

Jenkins Metal Shops, Inc. ....146
Jenkins Sons', Inc., M. W. . •
Johnson Bronze Co. ..... •
Johnson Corp. ..... •
Johnson Machine Works, Chas. B. .....225

**K**

Kali Mfg. Co. .....162
Kaumagraph Co. .....217

# Index of ADVERTISERS

*The Advertisers' Index is published as a convenience and not as a part of the advertising contract. Every care will be taken to index correctly. No allowance will be made for errors or failure to insert.*


Kearny Mfg. Co., Inc. .....224
Keever Starch Co. .....182
Knitting Arts Exhibition ... •

L
Lambeth Rope Corp. .....222
Lane & Bros, Inc., W. T. ...220
Laurel Soap Mfg. Co. .....210
Lawlor Co., S. C. .....220
Lawrence Leather Co., A. C. .....154 and 155
Lazenby & Co., Inc., F. A. ..221
Leyland Mchy. Co., Inc., Thomas .....181
Loper Co., Ralph E. .....166
Lubriplate Division ..... •
Lunkenheimer Co. ..... •

M
Maguire & Co., Inc., John P. .....190
Manhattan Rubber Division 221
Marquette Metal Products Co. ..... 70
Mason-Neilan Regulator Co. 184
Mathews Conveyor Co. .....173
M. B. Products .....220
McLean, R. E. ..... 36
McPherson Company .....150
Meadows Mfg. Co. ..... •
Medley Mfg. Co. .....178
Meese, Inc. .....218
Meinhard, Greeff & Co. ..... •
Merrow Machine Co. .....162
Monsanto Chemical Co. ..... 34
Monticello Bobbin Co. .....224
Moreland Chemical Co., Inc. 166
Mountain City Foundry & Machine Co. ..... •

N
National Aniline Division .175
National Drying Machinery Co., Inc. .....186
National Oil Products Co. ... 45
National Plastics, Inc. ..... •
National Ring Traveler Co. 224
National Starch Prod., Inc. 31
National Tube Co. ..... •
New Departure Div. .....101
New England Bobbin & Shuttle Co. ..... •
New England Products Co. 226
New York & New Jersey Lubricant Co. ..... 10
North, Inc., Frank G. .....188

O
Oakite Products, Inc. .....223
Obermaier .....136
O'Connor & Co., John T. ...171
Old Dominion Box Co. ..... •
Onyx Oil & Chemical Co. ..177

P
Parks-Cramer Co. ..Front Cover
Penick & Ford, Ltd., Inc. ...219
Perkins & Son, Inc., B. F. •
Permutit Co. .....172
Pittsburgh-Corning Corp. ..113
Pittsburgh Plate Glass Co. (Columbia Chemical Div.). 5
P. O. M. Company .....150
Powell Co., Wm. ..... •
Powers Regulator Co. .....147
Proctor & Gamble Distributing Co. ..... 53
Proctor & Schwartz, Inc. .. 58
Provident Life & Accident Insurance Co. ..... •

R
Ragan Ring Co. ..... •
Railway Supply & Mfg. Co. .169
Raybestos-Manhattan, Inc., Manhattan Rubber Div. .221
Raymond Service, Inc., Chas. P. .....226
Redman Card Clothing Co. .. •
Red Ray Mfg. Co. .....189
Reeves Pulley Co. .....124
Regnery Corp., F. L. .....112
Reiner, Inc., Robert. .....207
Reliance Electric & Engineering Co. ..... •
Republic Textile Equip. Co. .227
Rhoads & Sons, J. E. ..... •
Ridge Tool Co. ..... 30
Robert & Co. .....186
Rohm & Haas Co. ..... 68
Ross Engr. Corp., J. O. ....164
Roy & Son Co., B. S. .....224
Royce Chemical Co. ..... •

S
Saco-Lowell Shops ..... 6
Sandoz Chemical Works, Inc. 37
Sanforized Division, 132 and 133
Schieren Co., Chas. A. ..... •
Scholler Bros., Inc. .....215
Scott Testers, Inc. .....180
Scott & Williams, Inc. .....194
Selig Company ..... •
Seydel-Woolley & Co. .....143
Shepard Niles Crane & Hoist Corp. .....165
Showalter Co., A. J. .....222
Sinclair Refining Co., Inc...118
Sipp-Eastwood Corp. .....174
Sirrine & Co., J. E. .....217
S. K. F. Industries, Inc. ...168
Socony-Vacuum Oil Co., Inc. ..... 35
Solvay Sales Corp. ..... •
Sonoco Products Co. .....158
Southern Belting Co. .....225
Southern Plastics Co. .....170
Southern Shuttles Div. ..... •
Speizman Co., Inc., Morris ..210
Staley Mfg. Co., A. E. ..... •
Standard Brands, Inc. .....108
Standard Conveyor Co.....179
Standard-Coosa-Thatcher Co.152
Standard Fabricators, Inc. ..136
Standard Oil Company ..... •
Standard Pressed Steel Co. . •
Standard Soap Co. .....189
Steelcote Mfg. Co. .....174
Steel Heddle Mfg. Co. 27 and 28
Stein-Hall & Co., Inc. ..... 22
Sterling Ring Traveler Co. .223
Stodghill & Co. .....150
Supreme Knitting Machine Co. .....210
Sylvania Division ..... •

T
Talcott, Inc., James ..... •
Taylor Instrument Companies142
Tennant Co., G. H. .....149
Tennessee Coal, Iron and Railroad Co. ..... •
Tennessee Eastman Corp. ...122
Terrell Co., Inc. .....221
Texas Co. ..... 2
Textile Apron Co. .....164
Textile Banking Co. .....209
Textile Machine Works .....203 and 204
Textile Resins Dept..... 8 and 9
Tide-Water Associated Oil Co. ..... •
Torrington Co. .....213 and 214
Treasury Department ..... 62
Trust Company of Georgia •

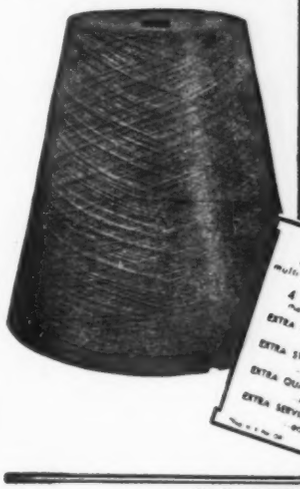
U
Union Crayon Co. .....218
Union Special Machine Co. 11
U. S. Bobbin & Shuttle Co. •
U. S. Ring Traveler Co. ...221
U. S. Steel Corp. ..... •
United States Testing Co. ..163
United Textiles .....226
Universal Winding Co. 12 and 38

V
Veeder Root, Inc. ...Back Cover
Van Vlaanderen Machine Co. 21
Victor Ring Traveler Co. ... 20

W
Wak Industries, Inc. ..... •
Wallerstein Co., Inc. ..... 15
Walton Laboratories, Inc. ...167
Want Ads .....226 and 227
Warwick Chemical Co. ..... •
Watson-Williams Mfg. Co...223
Werner Textile Consultants, Inc. .....150
West Point Fdy. & Mach. Co. .....140
Westinghouse Electric Corp. (Textile Industry) ..60 and 61
Wheeler Reflector Co. ..... •
Whitehead Mchy. Co., Troy .....14 and 224
Whitin Machine Works ... 26
Whitinsville Spinning Ring Co. .....125
Whitman Co., Inc., William. •
Wicaco Machine Corp. .....183
Wildman Mfg. Co. .....197
Willcox & Gibbs Sewing Machine Co. .....199
Wolf & Co., Jacques ..... •
Wolverine Equipment Co. .. •



AMERICAN

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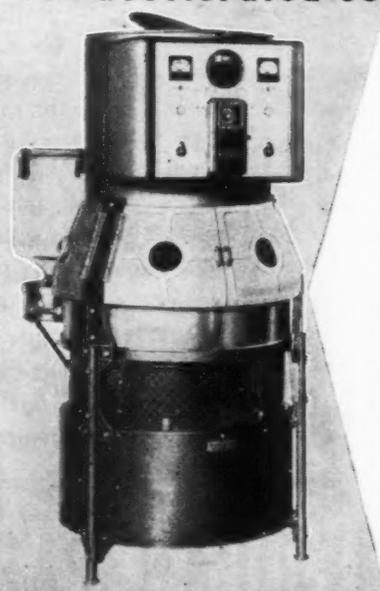

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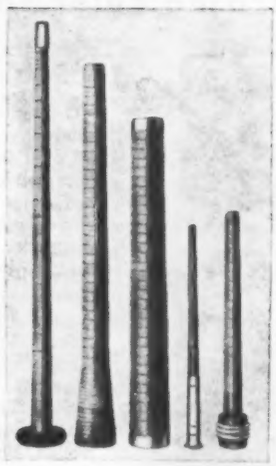

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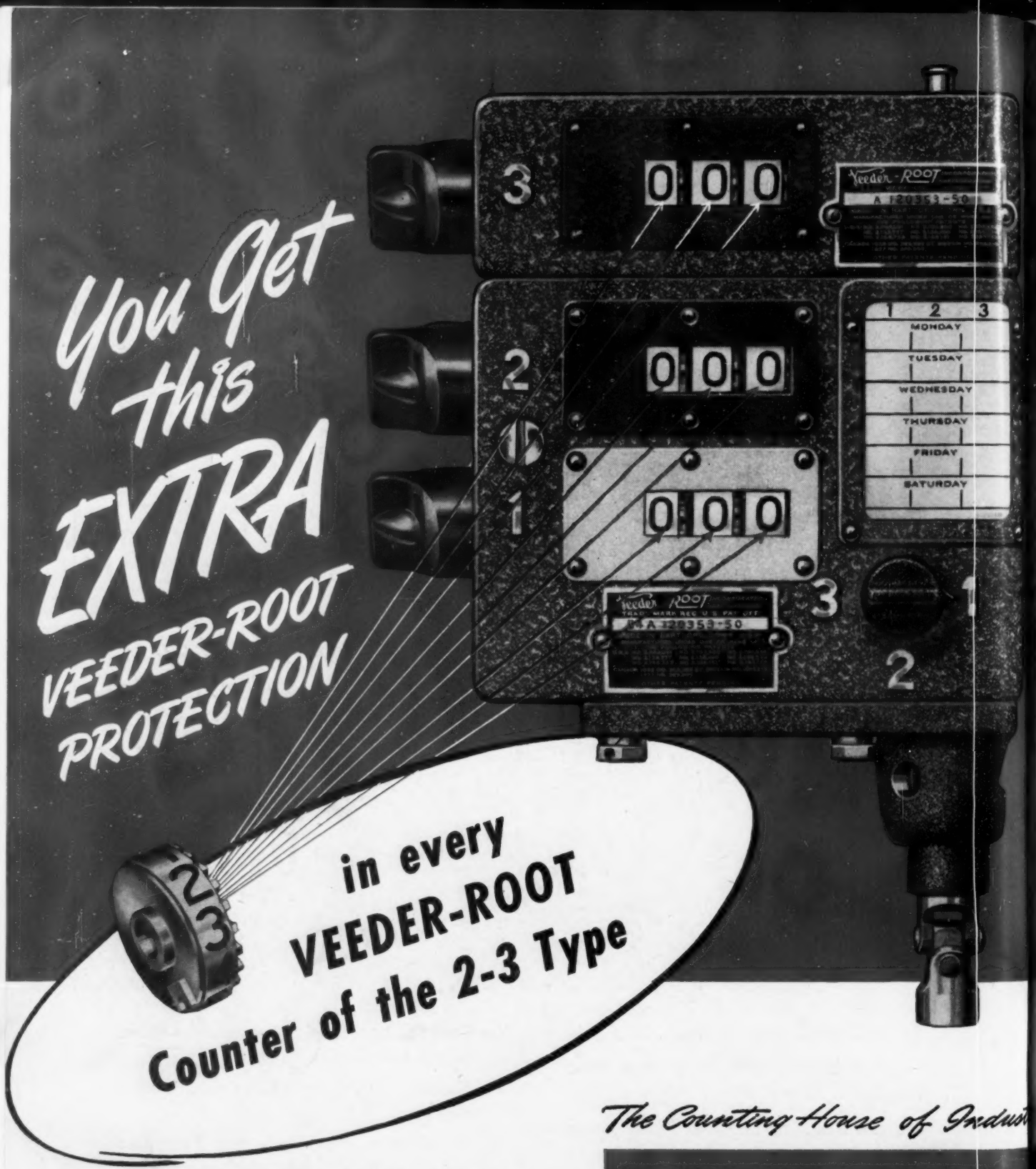


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